

=> s blackcurrant or black currant or currant
L1 8787 BLACKCURRANT OR BLACK CURRANT OR CURRANT

=> s % solids
L2 668275 % SOLIDS

=> s percent solids
L3 13169 PERCENT SOLIDS

=> s l2 or l3
L4 668275 L2 OR L3

=> s l4 and l1
L5 394 L4 AND L1

=> s food or juice
L6 2449219 FOOD OR JUICE

=> s l5 and l6
L7 284 L5 AND L6

=> s anthocyanin
L8 22247 ANTHOCYANIN

=> s anthocyan?
L9 35513 ANTHOCYAN?

=> s l9 and l7
L10 12 L9 AND L7

=> dup rem
ENTER L# LIST OR (END):110
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, DGENE, DRUGLAUNCH,
DRUGMONOG2, KOSMET, MEDICONF, NUTRACEUT, PCTGEN, PHARMAML'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L10
L11 12 DUP REM L10 (0 DUPLICATES REMOVED)

=> d l11 1-12 ibib, kwic

L11 ANSWER 1 OF 12 USPATFULL

ACCESSION NUMBER: 2003:10363 USPATFULL

TITLE: Food products

INVENTOR(S): Hynes, Michael P., Plymouth, MA, UNITED STATES
Kaufman, Kathryn, Jamaica Plain, MA, UNITED STATES
Hembling, Mark V., Sandwich, MA, UNITED STATES

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2003008057 | A1 | 20030109 |
| APPLICATION INFO.: | US 2002-138592 | A1 | 20020430 (10) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 2001-845417, filed on 30 Apr 2001, PENDING | | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | JEFFREY D. HSI, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804 | | |
| NUMBER OF CLAIMS: | 28 | | |
| EXEMPLARY CLAIM: | 1 | | |
| LINE COUNT: | 1000 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Food products

SUMM [0002] This invention relates to food products, particularly
beverages, fruit and vegetable juice beverages, and more

particularly **cranberry juice** beverages.

SUMM [0003] Juices and **juice** drinks are a source of refreshment for all ages. In addition to their pleasing taste and hydration qualities, juices and **juice** drinks from various fruits and vegetables also provide additional health benefits. From a nutritional standpoint, juices and **juice** drinks are a good source of various carbohydrates, vitamins and minerals, as well as other nutrients, factors and compounds that confer health benefits to the consumer. Certain juices or **juice** extracts or concentrates, however, while having desirable levels of beneficial nutrients, factors and compounds, are also endowed with taste or. . . flavor sensations that are objectionable or unpalatable to certain consumers. In such cases, the taste or flavor sensation of the **juice, juice** extract or concentrate can be modulated with sweeteners, both natural or artificial, to create a more pleasing taste or flavor sensation, while retaining the healthful levels of nutrients, factors and compounds. Such adjustments, however, typically result in a **juice** or **juice** drink that contains substantial levels of sweetener, and thus higher calorie content, or artificial sweeteners. In both instances, these formulations. . .

SUMM [0004] Examples of typical **juice** beverages include, for example, OCEAN SPRAY Cranberry **Juice** Cocktail, OCEAN SPRAY CRANAPPLE Cranberry Apple **Juice** Drink, OCEAN SPRAY CRAN-RASPBERRY Raspberry Cranberry **Juice** Drink, and OCEAN SPRAY CRAN-GRAPE Grape Cranberry **Juice** Drink, and those delineated at the web site www.oceanspray.com. These typical **juice** beverages have characteristics, for example, sweetness, consistency or mouthfeel, health benefits (e.g., urinary tract health benefits, levels of nutrients, compounds, factors), that are desirable. For example, one cranberry **juice** drink, OCEAN SPRAY Cranberry **Juice** Cocktail, contains 27% **juice**, has a brix value of 13-14, about 25-40 mg of proanthocyanidins (beneficial to urinary tract health) per 8 oz. serving. . .

SUMM [0006] In one embodiment the invention is a composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) comprising: sucrose (e.g., cane sugar), fructose (e.g., dry fructose), a hydrocolloid (e.g., pectin, tara gum), and water (e.g., filtered. . .

SUMM [0007] In one embodiment the invention is a composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) comprising: sucrose (e.g., cane sugar), fructose (e.g., dry fructose), pectin (e.g., fruit derived pectin, citrus derived pectin, high methoxyl. . .

SUMM [0008] In alternate embodiments, the compositions are those further comprising one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry; apple; raspberry; grape; strawberry; mango; tangerine; **black currant**; blueberry; peach; pineapple; pear; grapefruit; or a combination thereof, those wherein the **juice** concentrates are cranberry and one or more of: apple; raspberry; grape; strawberry; mango; tangerine; **black currant**; or blueberry (e.g., cranberry and apple, cranberry), or those wherein the **juice** concentrates are apple, pear, raspberry, kiwi, grape, orange, strawberry, lemon, peach, pineapple, passion fruit, mango, cranberry, blueberry, blackberry, or a. . .

SUMM [0013] Another embodiment is the composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) having proanthocyanidin content between about 10 mg and about 60 mg per 8 oz.; alternatively between about 25 mg. . .

SUMM [0014] Another embodiment is the composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) having

proanthocyanidin content between about 10 mg and about 60 mg per 8 oz.; alternatively between about 25 mg. . .

SUMM [0015] In alternate embodiments, the compositions are those further comprising one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the **juice** concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry), or those wherein the **juice** concentrates are apple, pear, raspberry, kiwi, grape, orange, strawberry, lemon, peach, pineapple, passion fruit, mango, cranberry, blueberry, blackberry, or a. . .

SUMM [0020] In another embodiment, the composition comprises cranberry **juice** (25-30% by weight), sucrose, fructose, pectin, and water, wherein the ratio of sucrose: fructose: pectin is about 43 to about. . .

SUMM [0021] In another embodiment, the composition comprises **juice**, sucrose, fructose, tara gum, and water, wherein the ratio of sucrose: fructose: tara gum is about 45 to about 55:.. . .

SUMM [0022] In another embodiment, the composition comprises cranberry **juice** (10-20% by weight), sucrose, fructose, pectin, UTH extract, and water, wherein the ratio of sucrose: fructose: pectin is about 43. . . .

SUMM [0023] Another embodiment is a method of making a composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) comprising combining: sucrose (e.g., cane sugar), fructose (e.g., dry fructose), pectin (e.g., fruit derived pectin, citrus derived pectin, high. . . .

SUMM [0024] Another embodiment is a method of making a composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) comprising combining: sucrose (e.g., cane sugar), fructose (e.g., dry fructose), tara gum, and water (e.g., filtered water), wherein the. . . .

SUMM [0026] In alternate embodiments, the methods are those further comprising combining one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the **juice** concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry (e.g., cranberry and raspberry, cranberry and apple, cranberry), or those wherein the **juice** concentrates are apple, pear, raspberry, kiwi, grape, orange, strawberry, lemon, peach, pineapple, passion fruit, mango, cranberry, blueberry, blackberry, or a. . . .

SUMM . . . to 5, alternatively about 48:48:4, respectively by weight. In alternate embodiments, the compositions are those further comprising one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the **juice** concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry). . . .

SUMM . . . to 5, alternatively about 50:49:1, respectively by weight. In alternate embodiments, the compositions are those further comprising one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach,

pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry), or those wherein the juice concentrates are apple, pear, raspberry, kiwi, grape, orange, strawberry, lemon, peach, pineapple, passion fruit, mango, cranberry, blueberry, blackberry, or a . . .

SUMM . . . is a method of enhancing urinary tract health in a mammal comprising administration of a composition (e.g., beverage; reduced sugar juice/juice drink; artificial sweetener-devoid reduced sugar juice/juice drink) delineated herein.

SUMM [0038] Another embodiment is a composition (e.g., beverage; reduced sugar juice/juice drink; artificial sweetener-devoid reduced sugar juice/juice drink made by the process of combining sucrose (e.g., cane sugar), fructose (e.g., dry fructose), pectin (e.g., fruit derived pectin, . . . alternatively about 48:48:4, respectively by weight. In alternate embodiments, the compositions are those made by further combining one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry).

SUMM [0039] Another embodiment is a composition (e.g., beverage; reduced sugar juice/juice drink; artificial sweetener-devoid reduced sugar juice/juice drink made by the process of combining sucrose (e.g., cane sugar), fructose (e.g., dry fructose), tara gum, and water (e.g., . . . alternatively about 50:49:1, respectively by weight. In alternate embodiments, the compositions are those made by further combining one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry), or those wherein the juice concentrates are apple, pear, raspberry, kiwi, grape, orange, strawberry, lemon, peach, pineapple, passion fruit, mango, cranberry, blueberry, blackberry, or a . . .

SUMM . . . 12 or less (e.g., about 8-10). In alternate embodiments, the processes are those made by further selecting one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry), or those wherein the juice concentrates are apple, pear, raspberry, kiwi, grape, orange, strawberry, lemon, peach, pineapple, passion fruit, mango, cranberry, blueberry, blackberry, or a . . .

SUMM [0049] Another embodiment is a composition comprising 25-30% by weight, cranberry juice; sucrose; fructose; pectin; and water, wherein the ratio of sucrose: fructose: pectin is about 43 to about 53: about 43. . .

SUMM [0050] Other embodiments of the invention are any of the compositions delineated herein having between about 5% and about 35% juice . . .

content, alternatively between about 10% and about 30% juice content, or alternatively between about 15% and 25% juice content, by weight.

SUMM [0054] Embodiments of the invention can have one or more of the following advantages. A cranberry juice beverage can be provided that includes cranberry juice in an amount (e.g., 25-30%) commonly found in conventional cranberry juice drinks, but has less sugar and less calories (e.g., 35 to 50% fewer) and is free of artificial sweeteners. Alternatively, this juice beverage can be of juices other than cranberry. The juice beverage utilizes a sucrose/fructose/hydrocolloid (e.g., pectin, tara gum) sweetener, which creates a greater apparent sweetness and also contributes to a desirable body or mouthfeel in spite of a brix level (e.g., 8-10). As a result, the low sugar juice has less sugar and fewer calories without utilizing an artificial sweetener and while providing a full-bodied mouthfeel more characteristic of higher brix, sweeter juice drink.

SUMM [0055] In embodiments, a cranberry juice drink can be provided that utilizes somewhat lower amounts of cranberry juice, e.g., 10-20%, but includes a cranberry or other UTH extract that provides the levels of nutrients, factors, or compounds (e.g., health benefits, urinary tract health benefits) and flavor of a higher juice content juice drink. The cranberry juice drink can include the sucrose/fructose/hydrocolloid (e.g., pectin, tara gum) sweetener to reduce sugar content (and calories), while providing full-bodied mouthfeel.

SUMM [0056] While the techniques are particularly beneficial for preparing low calorie, high body drinks or for food products, utilizing astringent fruits or fruit juices, such as cranberry, in embodiments, the sucrose/fructose/hydrocolloid (e.g., pectin, tara gum) sweetener and UTH extract can be used to sweeten and fortify other food products (e.g., with the health benefit of cranberries), such as e.g., drinks based on other juices, mixed juice drinks, and non-beverage food products, such as dried sweetened cranberries.

SUMM [0057] In other aspects, the food products (e.g., drinks, beverages) are those delineated herein having essentially no, or are devoid of, dairy products (e.g., milk, whey, cream, yogurt), or other products derived from mammalian milk. The food products are also those delineated herein having a hydrocolloid that provides similar body or consistency and flavor as the same food product with higher sugar content and/or no hydrocolloid.

SUMM [0059] A cranberry food product includes a sweetener composition having sucrose, fructose, and pectin. The food product can also have a cranberry extract. The sweetener composition can be utilized in a food product, e.g., a beverage, including a flavoring, such as a cranberry juice fruit, or other fruit, flavoring. An alternate example is a cranberry fruit beverage that includes an amount of cranberry juice, cranberry extract, or cranberry flavoring consistent with the health benefits and taste of conventionally sugar-sweetened cranberry juice cocktail, but has fewer calories and does not contain artificial sweeteners.

SUMM . . . and vegetables. It is believed that the pectin contributes to a desirable, naturally sweetened mouthfeel and consistency, or viscosity, of food products utilizing the sweetener compositions herein. Pectins useful in the compositions include both high methoxyl pectins and low methoxyl pectins.

SUMM . . . Technical Data Sheet No. 793040, A. E. Staley Manufacturing Company, Decatur, Ill.). According to this scale, based on 10% dissolved solids aqueous solution at room temperature, sucrose has a RS of 100 while fructose has a RS of 117. Fructose in.

SUMM [0069] One measure of sugar content is the "brix" value, a measure of the percentage of dissolved soluble solids (e.g., sugar) in a solution. For example, in the typical cranberry juice

cocktail, the sugar content is a brix value of around 13-14. In embodiments, the compositions delineated herein have a lower sugar content than a typical **juice** beverage and thus a lower brix value. The compositions delineated herein can have a brix value of less than about. . .

SUMM . . . ratio of the brix value of the beverage divided by the percent acid content. For example, in a typical cranberry **juice** drink, the BAR is e.g., about 21 to about 28. In the compositions including the sweetener composition and cranberry **juice/juice** concentrate (e.g., cranberry, cranberry raspberry, cranberry apple), the BAR is e.g., about 21 to about 28. In a typical grape **juice** drink, the BAR is e.g., about 28 to about 36. In embodiments, the compositions including the sweetener composition and grape **juice /juice** concentrate and no cranberry, the BAR is e.g., about 19 to about 33, about 21 to about 28, about 21. . .

SUMM [0071] The sweetener compositions provide certain benefits for cranberry food products, such as beverages. A specific example of a beverage is one having about 5-10%, alternatively about 7%, by weight.

SUMM [0072] As described above, typical cranberry **juice** drink contains about 25-30% cranberry **juice** by weight. This proportion of **juice** is desirable in that the level of certain factors or compounds, including for example, proanthocyanidins, is such that urinary tract. . . Journal of Medicine, Vol. 339, No. 15, (1998), and references cited therein, all incorporated by reference in their entirety). Cranberry **juice** can have a sour or bitter taste, however, particularly at such levels. To counteract these attributes, significant amounts of a. . . (e.g., sorbitol, xylitol, mannitol) may be added. In either case, certain consumers while desiring the healthful benefits of typical cranberry **juice** drink, are put-off by the amount of sugar (and inherent calories) or the presence of artificial sweetener in the beverage.

SUMM . . . impact (e.g., consistency, mouthfeel, texture, taste, sweetness) that appeals to consumers, including those consumers of a typical, or higher calorie, **juice** beverage. Such sensory impact can be assessed in a variety of ways, including, for example, taste testing panels, where subjects. . . Company, Decatur, Ill.), essentially similar to the typical or higher calorie version of the beverage. The beverage can have a **juice** content similar to that of conventional **juice** drinks, but with lower calories. The beverage can also have a lower astringent **juice** content (e.g., cranberry), or lower overall **juice** content than conventional drinks, and lower calories. The reduced sugar beverages delineated herein typically have between about 35 to about. . .

SUMM [0074] In embodiments, the beverage or other food product can include a UTH extract. A "UTH extract" is an extract having nutrients, factors, or compounds therein that enhance or impart a beneficial effect on health, including urinary tract health. Such extracts can include, for example, proanthocyanidin compounds, **anthocyanidin** compounds, proanthocyanin compounds, **anthocyanin** compounds, fruit extracts (e.g., berry, cranberry, blueberry, blackberry, grape, raspberry), cranberry extract powder (e.g., dried cranberry extract powder, Ocean Spray. . .

SUMM [0075] One benefit is a reduced sugar cranberry **juice** beverage (e.g., cranberry, cranberry raspberry, cranberry apple) having the sweetener composition and UTH extract. The combination of the sweetener composition and lower levels of cranberry **juice** (or cranberry **juice** concentrate) (e.g., about 27% cranberry in typical cranberry **juice** drink compared to about 10-20%, e.g., about 12-16%, in a reduced sugar cranberry **juice** drink) result in a beverage having less total sugar, and thus less calories per serving. At the same time, the urinary health benefit (e.g., proanthocyanidin content) is retained in the reduced sugar **juice** drink relative to a typical **juice** drink. Thus, the combination of sweetener

composition, UTH extract and cranberry juice/juice concentrate give a pleasant tasting, palatable juice drink that is lower in calories and has similar health benefits (e.g., urinary tract health benefits) relative to a typical cranberry juice drink.

SUMM [0076] Further, the compositions provide a beverage having essentially the health benefits of a typical juice drink (e.g., cranberry, grape), yet are lower in calorie content than a typical juice drink (e.g., cranberry, grape). The health benefits of the compositions delineated herein include those benefits from nutrients, factors or compounds of fruits, vegetables, extracts thereof, or their juice, and include, for example, proanthocyanidin compounds, anthocyanidin compounds, proanthocyanin compounds, anthocyanin compounds, phytochemicals, cranberry extracts and grape extracts. Such health benefits include, for example, enhancement of urinary tract health, bacterial anti-adhesion. . . .

SUMM [0077] For example, a conventional cranberry juice drink (e.g., 25-30% juice) contains between about 25 and about 60 milligrams of proanthocyanidins per eight ounces of beverage, and thus confers health benefits based in part thereon. In embodiments, compositions while lower in calories than the typical cranberry juice beverage, have an essentially similar level of proanthocyanidins relative to the typical or higher calorie version. In embodiments, compositions have. . . .

SUMM [0079] Juice concentrates used in the compositions may be of fruit or vegetable origin including, for example, cranberry, apple, raspberry, grape, strawberry, cherry, mango, tangerine, black currant, peach, pear, pineapple, grapefruit, kiwi, lemon, orange, passion fruit, blueberry, blackberry, and the like. Juice concentrates may be used singly or on combination. Sources of juice concentrates include, for example, Naumes Concentrates, Wapato, Wash.; Valley Concentrates, San Juanquin, Calif.; and Milne, Prosser, Wash.

SUMM . . . fewer calories than the same beverage having essentially an equally sweet and acceptable taste. A reduced sugar beverage (e.g., cranberry juice containing beverage, grape juice containing beverage) can have essentially the same or similar brix/acid ratio (BAR) as a typical cranberry juice beverage. A reduced sugar beverage (e.g., cranberry juice containing beverage, grape juice containing beverage) having a UTH extract can have essentially the same or similar urinary tract health benefit, or has essentially the same or similar levels of nutrients, factors, or compounds as the typical cranberry juice beverage.

SUMM [0083] The food product can also include other ingredients, for example, flavor agents, sweetness enhancers, vitamins, and acidic agents. A "flavor agent" is. . . in combination, or as a premixed combination. The flavor agents can be fruit or vegetable flavor, or other more general food and beverage flavoring agents (e.g., sweet flavor). Flavor agents include, for example, grape, cranberry, raspberry, berry, strawberry, blueberry, kiwi, mango,. . . .

SUMM . . . comprising the compositions delineated herein. For example, the compositions delineated herein may be prepared in the form of beverages (e.g., juice drinks, flavorings, smoothies (See, for example, U.S. patent application Ser. No. 09/393,175, filed Sep. 9, 1999), confections (e.g., ice pops,. . . .

DETD . . . added to water (770.932 lbs.) in a suitable mixing vessel with moderate agitation. To this mixture is then added cranberry juice concentrate (19.281 lbs.) and apple juice concentrate (7.152 lbs.). After sufficient mixing, cranberry flavor (0.835 lbs.), berry flavor (0.071 lbs.), and natural sweet sugar type flavor. . . .

DETD [0094] The following juice beverages were prepared essentially in the manner described above using the ingredients as delineated respectively. In these examples, BAR is. . . the brix/acid ratio,

calories are per 8 oz. serving, and proanthocyanidin content (PAC) is mg per 8 oz. serving.

Grape Juice Cocktail

(30% fruit juice, 90 calories, brix = 9.2, BAR = 32.8)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|---------|--------|
| Sucrose | 17.469 |
|---------|--------|

| | |
|----------|--------|
| Fructose | 17.000 |
|----------|--------|

| | |
|--------|-------|
| Pectin | 1.250 |
|--------|-------|

| | |
|--------------------|--|
| Concord Grape. . . | |
|--------------------|--|

DETD [0095]

Cranberry Juice Cocktail

(20% fruit juice, 90 calories, PAC = 25-40, brix = 8.7, BAR = 24.8)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|---------|--------|
| Sucrose | 28.601 |
|---------|--------|

| | |
|----------|--------|
| Fructose | 28.503 |
|----------|--------|

| | |
|-------------|--|
| Pectin. . . | |
|-------------|--|

DETD [0096]

Cranberry-Raspberry Juice Cocktail

(20% fruit juice, 90 calories, PAC = 25-40, brix = 9.2, BAR = 24.9)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|---------|--------|
| Sucrose | 28.731 |
|---------|--------|

| | |
|----------|--------|
| Fructose | 28.559 |
|----------|--------|

| | |
|-------------|--|
| Pectin. . . | |
|-------------|--|

DETD [0097]

Strawberry-Kiwi Juice Cocktail

(% fruit juice = 20, calories = 80, brix = 8.1, BAR = 20.8)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|---------|--------|
| Sucrose | 23.119 |
|---------|--------|

| | |
|-------------|--------|
| Dry Krystar | 22.002 |
|-------------|--------|

DETD [0098]

Grape Juice Cocktail

(% fruit juice = 30, calories = 90, brix = 9.2, BAR = 30.7)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|---------|--------|
| Sucrose | 17.728 |
|---------|--------|

| | |
|-------------------|--------|
| Grape Concentrate | 41.722 |
|-------------------|--------|

DETD [0099]

Tropical Blend Juice Cocktail

(% fruit juice = 20, calories = 80, brix = 8.4, BAR = 21.5)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|---------|--------|
| Sucrose | 24.908 |
|---------|--------|

| | |
|--------------------|--------|
| Orange Concentrate | 19.137 |
|--------------------|--------|

DETD [0100]

Cranberry-Wildberry Juice Cocktail

(% fruit **juice** = 20, calories = 80, PAC = 5-10, brix = 8.4,
BAR = 21.5)

| Ingredient | Wet Weight (lbs) |
|------------------------------------|------------------|
| Sucrose | 24.195 |
| Red Grape Concentrate | 22.947 |
| Cranberry Concentrate | 7.712 |
| Dry Krystar | 23.600 |
| Blueberry Juice Concentrate | 1.331 |
| Blackberry Concentrate | 1.331 |
| Sodium Citrate | 1.250 |
| Citric Acid | 1.300 |
| Raspberry Concentrate | 1.221 |
| Strawberry Flv. WONF NV-15,982 | 1.053 |
| Natural. . . | |

CLM What is claimed is:

3. The composition of claim 2, further comprising one or more **juice** concentrates.

7. The composition of claim 6, further comprising one or more **juice** concentrates.

10. A composition comprising: (1) 25-30% by weight, cranberry **juice**; (2) sucrose; (3) fructose; (4) tara gum; and (5) water, wherein the ratio of sucrose: fructose: tara gum is about. . .

15. The composition of claim 14, further comprising one or more **juice** concentrates.

19. The method of claim 18 further comprising combining one or more **juice** concentrates.

26. A composition comprising: (1) 10-20% by weight, cranberry **juice**; (2) sucrose; (3) fructose; (4) tara gum; (5) UTH extract; and (6) water, wherein the ratio of sucrose: fructose: tara.

L11 ANSWER 2 OF 12 USPATFULL

ACCESSION NUMBER: 2002:336993 USPATFULL

TITLE: Food products

INVENTOR(S): Hynes, Michael P., Plymouth, MA, UNITED STATES
Kaufman, Kathryn, Jamaica Plain, MA, UNITED STATES
Hembling, Mark V., Sandwich, MA, UNITED STATES

| | NUMBER | KIND | DATE |
|-----------------------|---|------|--------------|
| PATENT INFORMATION: | US 2002192350 | A1 | 20021219 |
| APPLICATION INFO.: | US 2001-845417 | A1 | 20010430 (9) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | JEFFREY D. HSI, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804 | | |
| NUMBER OF CLAIMS: | 10 | | |
| EXEMPLARY CLAIM: | 1 | | |
| LINE COUNT: | 743 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Food products

SUMM [0001] This invention relates to food products, particularly beverages, fruit and vegetable **juice** beverages, and more particularly cranberry **juice** beverages.

SUMM [0002] Juices and **juice** drinks are a source of refreshment for all ages. In addition to their pleasing taste and hydration qualities, juices and **juice** drinks from various fruits and vegetables

also provide additional health benefits. From a nutritional standpoint, juices and **juice** drinks are a good source of various carbohydrates, vitamins and minerals, as well as other nutrients, factors and compounds that confer health benefits to the consumer. Certain juices or **juice** extracts or concentrates, however, while having desirable levels of beneficial nutrients, factors and compounds, are also endowed with taste or . . . flavor sensations that are objectionable or unpalatable to certain consumers. In such cases, the taste or flavor sensation of the **juice, juice** extract or concentrate can be modulated with sweeteners, both natural or artificial, to create a more pleasing taste or flavor sensation, while retaining the healthful levels of nutrients, factors and compounds. Such adjustments, however, typically result in a **juice** or **juice** drink that contains substantial levels of sweetener, and thus higher calorie content, or artificial sweeteners. In both instances, these formulations. . .

SUMM [0003] Examples of typical **juice** beverages include, for example, OCEAN SPRAY Cranberry **Juice** Cocktail, OCEAN SPRAY CRANAPPLE Cranberry Apple **Juice** Drink, OCEAN SPRAY CRAN RASPBERRY Raspberry Cranberry **Juice** Drink, and OCEAN SPRAY CRAN GRAPE Grape Cranberry **Juice** Drink, and those delineated at the web site www.oceanspray.com. These typical **juice** beverages have characteristics, for example, sweetness, consistency or mouthfeel, health benefits (e.g., urinary tract health benefits, levels of nutrients, compounds, factors), that are desirable. For example, one cranberry **juice** drink, OCEAN SPRAY Cranberry **Juice** Cocktail, contains 27% **juice**, has a brix value of 13-14, about 25-40 mg of proanthocyanidins (beneficial to urinary tract health) per 8 oz. serving, . . .

SUMM [0005] In one embodiment the invention is a composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) comprising: sucrose (e.g., cane sugar), fructose (e.g., dry fructose), pectin (e.g., fruit derived pectin, citrus derived pectin, high methoxyl. . . to 5, alternatively about 48:48:4, respectively by weight. In alternate embodiments, the compositions are those further comprising one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry; apple; raspberry; grape; strawberry; mango; tangerine; **black currant**; blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the **juice** concentrates are cranberry and one or more of: apple; raspberry; grape; strawberry; mango; tangerine; **black currant**; or blueberry (e.g., cranberry and apple, cranberry).

SUMM [0010] Another embodiment is the composition (e.g., beverage; reduced sugar **juice/juice** drink; artificial sweetener-devoid reduced sugar **juice/juice** drink) having proanthocyanidin content between about 10 mg and about 60 mg per 8 oz.; alternatively between about 25 mg. . . to 5, alternatively about 48:48:4, respectively by weight. In alternate embodiments, the compositions are those further comprising one or more **juice** concentrates, those wherein the **juice** concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the **juice** concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, **black currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry).

SUMM [0015] In another embodiment, the composition comprises cranberry **juice** (25-30% by weight), sucrose, fructose, pectin, and water, wherein the ratio of sucrose:fructose:pectin is about 43 to about 53:about 43. . .

SUMM [0016] In another embodiment, the composition comprises cranberry

juice (10-20% by weight), sucrose, fructose, pectin, UTH extract, and water, wherein the ratio of sucrose:fructose:pectin is about 43 to about.

SUMM [0017] Another embodiment is a method of making a composition (e.g., beverage; reduced sugar juice/juice drink; artificial sweetener-devoid reduced sugar juice/juice drink) comprising combining: sucrose (e.g., cane sugar), fructose (e.g., dry fructose), pectin (e.g., fruit derived pectin, citrus derived pectin, high).

SUMM [0019] In alternate embodiments, the methods are those further comprising combining one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, black currant, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, black currant, or blueberry (e.g., cranberry and raspberry, cranberry and apple, cranberry).

SUMM . . . to 5, alternatively about 48:48:4, respectively by weight. In alternate embodiments, the compositions are those further comprising one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, black currant, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, black currant, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry).

SUMM . . . is a method of enhancing urinary tract health in a mammal comprising administration of a composition (e.g., beverage; reduced sugar juice/juice drink; artificial sweetener-devoid reduced sugar juice/juice drink) delineated herein.

SUMM [0030] Another embodiment is a composition (e.g., beverage; reduced sugar juice/juice drink; artificial sweetener-devoid reduced sugar juice/juice drink made by the process of combining sucrose (e.g., cane sugar), fructose (e.g., dry fructose), pectin (e.g., fruit derived pectin, . . . alternatively about 48:48:4, respectively by weight. In alternate embodiments, the compositions are those made by further combining one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, black currant, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, black currant, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry).

SUMM . . . composition is about 12 or less. In alternate embodiments, the processes are those made by further selecting one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, black currant, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, black currant, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry).

SUMM [0040] Other embodiments of the invention are any of the compositions delineated herein having between about 5% and about 35% juice content, alternatively between about 10% and about 30% juice content, or alternatively between about 15% and 25% juice content, by weight.

SUMM [0043] Embodiments of the invention can have one or more of the following advantages. A cranberry juice beverage can be

provided that includes cranberry juice in an amount (e.g., 25-30%) commonly found in conventional cranberry juice drinks, but has less sugar and less calories (e.g., 35 to 50% fewer) and is free of artificial sweeteners. The juice utilizes a sucrose/fructose/pectin sweetener, which creates a greater apparent sweetness and also contributes to a desirable body or mouthfeel in spite of a brix level (e.g., 8-10). As a result, the low sugar juice has less sugar and fewer calories without utilizing an artificial sweetener and while providing a full-bodied mouthfeel more characteristic of higher brix, sweeter juice drink.

SUMM [0044] In embodiments, a cranberry juice drink can be provided that utilizes somewhat lower amounts of cranberry juice, e.g., 10-20%, but includes a cranberry or other UTH extract that provides the levels of nutrients, factors, or compounds (e.g., health benefits, urinary tract health benefits) and flavor of a higher juice content juice drink. The cranberry juice drink can include the sucrose/fructose/pectin sweetener to reduce sugar content (and calories), while providing full-bodied mouthfeel and avoiding artificial sweeteners.

SUMM [0045] While the techniques are particularly beneficial for preparing low calorie, high body drinks or for food products, utilizing astringent fruits or fruit juices, such as cranberry, in embodiments, the sucrose/fructose/pectin sweetener and UTH extract can be used to sweeten and fortify other food products (e.g., with the health benefit of cranberries), such as e.g., drinks based on other juices, mixed juice drinks, and non-beverage food products, such as dried sweetened cranberries.

SUMM [0047] A cranberry food product includes a sweetener composition having sucrose, fructose, and pectin. The food product can also have a cranberry extract. The sweetener composition can be utilized in a food product, e.g., a beverage, including a flavoring, such as a cranberry juice fruit, or other fruit, flavoring. An alternate example is a cranberry fruit beverage that includes an amount of cranberry juice, cranberry extract, or cranberry flavoring consistent with the health benefits and taste of conventionally sugar-sweetened cranberry juice cocktail, but has fewer calories and does not contain artificial sweeteners.

SUMM . . . and vegetables. It is believed that the pectin contributes to a desirable, naturally sweetened mouthfeel and consistency, or viscosity, of food products utilizing the sweetener compositions herein. Pectins useful in the compositions include both high methoxyl pectins and low methoxyl pectins.

SUMM . . . Technical Data Sheet No. 793040, A. E. Staley Manufacturing Company, Decatur, Ill.). According to this scale, based on 10% dissolved solids aqueous solution at room temperature, sucrose has a RS of 100 while fructose has a RS of 117. Fructose in.

SUMM [0056] One measure of sugar content is the "brix" value, a measure of the percentage of dissolved soluble solids (e.g., sugar) in a solution. For example, in the typical cranberry juice cocktail, the sugar content is a brix value of around 13-14. In embodiments, the compositions delineated herein have a lower sugar content than a typical juice beverage and thus a lower brix value. The compositions delineated herein can have a brix value of less than about.

SUMM . . . ratio of the brix value of the beverage divided by the percent acid content. For example, in a typical cranberry juice drink, the BAR is e.g., about 21 to about 28. In the compositions including the sweetener composition and cranberry juice/juice concentrate (e.g., cranberry, cranberry raspberry, cranberry apple), the BAR is e.g., about 21 to about 28. In a typical grape juice drink, the BAR is e.g., about 28 to about 36. In embodiments, the compositions including the sweetener composition and grape juice /juice concentrate and no cranberry, the BAR is e.g., about 21 to about 28.

SUMM [0058] The sweetener compositions provide certain benefits for cranberry food products, such as beverages. A specific example of a beverage is one having about 5-10%, alternatively about 7%, by weight.

SUMM [0059] As described above, typical cranberry juice drink contains about 25-30% cranberry juice by weight. This proportion of juice is desirable in that the level of certain factors or compounds, including for example, proanthocyanidins, is such that urinary tract. . . . Journal of Medicine, Vol. 339, No. 15, (1998), and references cited therein, all incorporated by reference in their entirety). Cranberry juice can have a sour or bitter taste, however, particularly at such levels. To counteract these attributes, significant amounts of a. . . . (e.g., sorbitol, xylitol, mannitol) may be added. In either case, certain consumers while desiring the healthful benefits of typical cranberry juice drink, are put-off by the amount of sugar (and inherent calories) or the presence of artificial sweetener in the beverage.

SUMM . . . impact (e.g., consistency, mouthfeel, texture, taste, sweetness) that appeals to consumers, including those consumers of a typical, or higher calorie, juice beverage. Such sensory impact can be assessed in a variety of ways, including, for example, taste testing panels, where subjects. . . . Company, Decatur, Ill.), essentially similar to the typical or higher calorie version of the beverage. The beverage can have a juice content similar to that of conventional juice drinks, but with lower calories. The beverage can also have a lower astringent juice content (e.g., cranberry), or lower overall juice content than conventional drinks, and lower calories. The reduced sugar beverages delineated herein typically have between about 35 to about. . . .

SUMM [0061] In embodiments, the beverage or other food product can include a UTH extract. A "UTH extract" is an extract having nutrients, factors, or compounds therein that enhance or impart a beneficial effect on health, including urinary tract health. Such extracts can include, for example, proanthocyanidin compounds, anthocyanidin compounds, proanthocyanin compounds, anthocyanin compounds, fruit extracts (e.g., berry, cranberry, blueberry, blackberry, grape, raspberry), cranberry extract powder (e.g., dried cranberry extract powder, Ocean Spray. . . .

SUMM [0062] One benefit is a reduced sugar cranberry juice beverage (e.g., cranberry, cranberry raspberry, cranberry apple) having the sweetener composition and UTH extract. The combination of the sweetener composition and lower levels of cranberry juice (or cranberry juice concentrate) (e.g., about 27% cranberry in typical cranberry juice drink compared to about 10-20%, e.g., about 12-16%, in a reduced sugar cranberry juice drink) result in a beverage having less total sugar, and thus less calories per serving. At the same time, the urinary health benefit (e.g., proanthocyanidin content) is retained in the reduced sugar juice drink relative to a typical juice drink. Thus, the combination of sweetener composition, UTH extract and cranberry juice/juice concentrate give a pleasant tasting, palatable juice drink that is lower in calories and has similar health benefits (e.g., urinary tract health benefits) relative to a typical cranberry juice drink.

SUMM [0063] Further, the compositions provide a beverage having essentially the health benefits of a typical juice drink (e.g., cranberry, grape), yet are lower in calorie content than a typical juice drink (e.g., cranberry, grape). The health benefits of the compositions delineated herein include those benefits from nutrients, factors or compounds of fruits, vegetables, extracts thereof, or their juice, and include, for example, proanthocyanidin compounds, anthocyanidin compounds, proanthocyanin compounds, anthocyanin compounds, phytochemicals, cranberry extracts and grape extracts. Such health benefits include, for example, enhancement

of urinary tract health, bacterial anti-adhesion. . .

SUMM [0064] For example, a conventional cranberry **juice** drink (e.g., 25-30% **juice**) contains between about 25 and about 60 milligrams of proanthocyanidins per eight ounces of beverage, and thus confers health benefits based in part thereon. In embodiments, compositions while lower in calories than the typical cranberry **juice** beverage, have an essentially similar level of proanthocyanidins relative to the typical or higher calorie version. In embodiments, compositions have. . .

SUMM [0066] **Juice** concentrates used in the compositions may be of fruit or vegetable origin including, for example, cranberry, apple, raspberry, grape, strawberry, cherry, mango, tangerine, **black currant**, peach, pear, pineapple, grapefruit, and the like. **Juice** concentrates may be used singly or on combination. Sources of **juice** concentrates include, for example, Naumes Concentrates, Wapato, Wash.; Valley Concentrates, San Juanquin, Calif.; and Milne, Prosser, Wash.

SUMM . . . fewer calories than the same beverage having essentially an equally sweet and acceptable taste. A reduced sugar beverage (e.g., cranberry **juice** containing beverage, grape **juice** containing beverage) can have essentially the same or similar brix/acid ratio (BAR) as a typical cranberry **juice** beverage. A reduced sugar beverage (e.g., cranberry **juice** containing beverage, grape **juice** containing beverage) having a UTH extract can have essentially the same or similar urinary tract health benefit, or has essentially the same or similar levels of nutrients, factors, or compounds as the typical cranberry **juice** beverage.

SUMM [0070] The **food** product can also include other ingredients, for example, flavor agents, sweetness enhancers, vitamins, and acidic agents. A "flavor agent" is. . . in combination, or as a premixed combination. The flavor agents can be fruit or vegetable flavor, or other more general **food** and beverage flavoring agents (e.g., sweet flavor). Flavor agents include, for example, grape, cranberry, raspberry, berry, strawberry, blueberry, kiwi, mango,. . .

SUMM . . . comprising the compositions delineated herein. For example, the compositions delineated herein may be prepared in the form of beverages (e.g., **juice** drinks, flavorings, smoothies (See, for example, U.S. patent application Ser. No. 09/393,175, filed Sep. 9, 1999), confections (e.g., ice pops,. . .

DETD . . . added to water (770.932 lbs.) in a suitable mixing vessel with moderate agitation. To this mixture is then added cranberry **juice** concentrate (19.281 lbs.) and apple **juice** concentrate (7.152 lbs.). After sufficient mixing, cranberry flavor (0.835 lbs.), berry flavor (0.071 lbs.), and natural sweet sugar type flavor. . .

DETD [0080] The following **juice** beverages were prepared essentially in the manner described above using the ingredients as delineated respectively. In these examples, BAR is. . . the brix/acid ratio, calories are per 8 oz. serving, and proanthocyanidin content (PAC) is mg per 8 oz. serving.

Grape **Juice** Cocktail

(30% fruit **juice**, 90 calories, brix = 9.2, BAR = 32.8)

| Ingredient | Wet Weight (lbs) |
|------------|------------------|
|------------|------------------|

| | |
|----------|--------|
| Sucrose | 17.469 |
| Fructose | 17.000 |
| Pectin | 1.250 |

| | |
|--------------------|--|
| Concord Grape. . . | |
|--------------------|--|

DETD [0081]

Cranberry **Juice** Cocktail

(20% fruit juice, 90 calories, PAC = 25-40, brix = 8.7, BAR = 24.8)
Ingredient Wet Weight (lbs)

Sucrose 28.601
Fructose 28.503
Pectin. . . .

DETD [0082]

Cranberry-Raspberry Juice Cocktail

(20% fruit juice, 90 calories, PAC = 25-40, brix = 9.2, BAR = 24.9)
Ingredient Wet Weight (lbs)

Sucrose 28.731
Fructose 28.559
Pectin. . . .

CLM What is claimed is:

3. The composition of claim 2, further comprising one or more juice concentrates.

7. The composition of claim 6, further comprising one or more juice concentrates.

10. A composition comprising: (1) 25-30% by weight, cranberry juice; (2) sucrose; (3) fructose; (4) pectin; and (5) water, wherein the ratio of sucrose: fructose: pectin is about 43 to. . .

L11 ANSWER 3 OF 12 USPATFULL

ACCESSION NUMBER: 2002:88033 USPATFULL

TITLE: Methods of hydrating mammalian skin comprising oral administration of a defined composition

INVENTOR(S): Blumenstein-Stahl, Gabriele, Hofheim, GERMANY, FEDERAL REPUBLIC OF
Podbielski, Ute, Hofheim am Taunus, GERMANY, FEDERAL REPUBLIC OF
Fischer, Christa-Marie, Eschborn, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): The Procter & Gamble Co., Cincinnati, OH, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|--|------|--------------|
| PATENT INFORMATION: | US 6375992 | B1 | 20020423 |
| APPLICATION INFO.: | US 2000-510800 | | 20000223 (9) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | GRANTED | | |
| PRIMARY EXAMINER: | Tate, Christopher R. | | |
| ASSISTANT EXAMINER: | Flood, Michele C. | | |
| LEGAL REPRESENTATIVE: | McDow-Dunham, Kelly L., Roof, Carl J. | | |
| NUMBER OF CLAIMS: | 17 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 0 Drawing Figure(s); 0 Drawing Page(s) | | |
| LINE COUNT: | 1391 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB . . . skin comprising orally administering a substantially decaffeinated composition comprising one or more flavanols, preferably through the presence of green tea solids. The present invention is further directed to kits comprising a substantially decaffeinated composition comprising one or more flavanols and information. . . .

SUMM . . . which are suitable for oral administration, and kits and methods thereof useful for hydrating mammalian skin. The compositions are preferably food or beverage compositions, preferably beverage compositions.

SUMM . . . mammalian skin comprising orally administering a composition comprising one or more flavanols, most preferably through the presence of green tea **solids**. The present invention is further directed to kits comprising a composition comprising one or more flavanols and information that oral. . .

SUMM . . . described herein and information that use of such kit provides one or more skin health benefits. The compositions are preferably food or beverage compositions, most preferably beverage compositions.

SUMM . . . a present composition, provides skin health benefits including hydration of mammalian skin. Preferably, a component selected from substantially decaffeinated tea **solids** (most preferably, green tea), red grape extract, or both, provides the flavanols in the composition. In a particularly preferred embodiment. . .

SUMM . . . presence of the flavanols is due to the presence of a tea solid in the composition (most preferably, green tea **solids**) and/or red grape extract. A particularly preferred embodiment of this type includes beverage compositions comprising green tea **solids**, glycerol, and optionally red grape extract and/or aloe, and at least about 50% water. Another particularly preferred embodiment of this type includes beverage compositions comprising green tea **solids**, aloe, glycerol, and red grape extract, and at least about 50% water. Further optional elements of beverage compositions, even more preferred levels of water, and preferred ranges and embodiments of the tea **solids**, aloe, glycerol, and red grape extract are defined further herein below. For example, the beverage compositions most preferably further comprise a beverage component selected from fruit juice, milk **solids**, fruit flavors, botanical flavors, and mixtures thereof, as is further described herein.

SUMM . . . at least one flavanol. As used herein, the term "flavanol" means catechins (including gallic catechins), epicatechins (including epigallocatechins, epigallocatechingallates, and epicatechingallates), **anthocyanins**, procyanidins (oligomers of catechins), tannins (polymers of catechins), and their derivatives. Preferably, "flavanol" means catechins (including gallic catechins), epicatechins (including epigallocatechins, epigallocatechingallates, and epicatechingallates) and **anthocyanins**. These derivatives include the sugar salts, sugar esters, and other physiologically acceptable derivatives.

SUMM Flavanols are well-known compounds which are largely present in fruits, vegetables, and tea **solids**, and may be extracted from these natural sources using any method known to those skilled in the art. Preferably, the flavanols herein are present in the compositions herein through the presence of one or more tea **solids** and/or red grape extract.

SUMM Other important flavanols for use herein are **anthocyanins**. **Anthocyanins** are also commercially available and are particularly abundant in red grape extract, as is set forth further below.

SUMM Therefore, the preferred sources of flavanols in the present invention are tea **solids** (preferably, green tea) and red grape extract, most preferably green tea.

SUMM Preferably, the flavanol herein is present in one or more tea **solids** and is used in the present compositions by including such tea solid in the composition, or by extracting the flavanol from such tea solid. As used herein, "tea **solids**" refers to **solids** obtained from the genus *Camellia* including *Camellia sinensis* and *Camellia assamica*, and the genus *Phyllanthus* including *Catechu gambir*, or the. . . tea). Thus, in a most preferred embodiment herein, the flavanol(s) included with a composition herein is present in green tea **solids** and is used in the present compositions by including green tea in the composition, or by extracting the flavanol(s) from. . .

SUMM Tea **solids** for use in compositions of the present invention can be obtained by known and conventional tea solid extraction methods.

A particularly preferred source of green tea **solids** can be obtained by the method described in Ekanavake et al., U.S. application Ser. No. 08/606,907, filed Feb. 26, 1996. Tea **solids** so obtained will typically comprise caffeine (as set forth below, such caffeine should be substantially removed to achieve the benefits of the present invention), theobromine, proteins, amino acids, minerals and carbohydrates. Suitable beverages containing tea **solids** can be formulated according to Tsai et al., U.S. Pat. 4,946,701, issued Aug. 7, 1990. See also, Ekanayake et al., U.S. Pat. No. 5,427,806, issued Jun. 26, 1995, for a suitable sources of green tea **solids** for use in the present invention.

- SUMM Extraction of one or more flavanols from a natural material, including tea **solids**, is well-known to one of ordinary skill in the art. For example, extraction with ethyl acetate or a chlorinated solvent. .
- SUMM The tea **solids** and the compositions including the tea solid should be substantially decaffeinated to avoid a dehydrating effect. As used herein, "substantially. . .
- SUMM . . . mammalian skin hydrating effect resulting from the flavanol(s) present in red grape extract, including the catechins, tannins, and primarily the **anthocyanins**. The red grape extract may contain other important compounds for enhancing total health, including skin health, such as phenolic acids.. . .
- SUMM . . . grape extract" preferably refers to red grape skin extracts, and may optionally include extracts from other fruits and vegetables, including **black currant** (*Ribes nigrum*) and carrots (*Daucus carota*). The red grape extract may be obtained from a variety of red grape sources,. . .
- SUMM . . . solvents and sulfur dioxide), carriers, or preservatives, are added to the extract itself. The process preferably maintains the flavanols, including **anthocyanins**, as well as carotenoids. Additionally, the process preferably eliminates other constituents present in the red grape, for example, a majority. . .
- SUMM . . . the most preferred embodiments of the present invention include glycerol (also commonly referred to as glycerin). Preferably, the glycerol is food-grade.
- SUMM . . . inventors have discovered that the mammalian skin hydrating effect provided by the flavanols herein is also surprisingly enhanced wherein the **juice** or gel of a plant of the genus *Aloe* is included within the composition. While the benefits of topical application. . .
- SUMM Accordingly, preferred embodiments of the present invention include, in addition to one or more flavanols, the **juice** or gel derived from a plant of the genus *Aloe* (the **juice** or gel of this genus is herein referred to for simplicity as "aloe"). The aloe is an optional component herein.
- SUMM The aloe herein (the aloe **juice** or gel) is primarily composed of the mucilaginous parenchymous tissue which is commonly excised from fresh leaves of the plant and immediately utilized as the obtained **juice** or gel, or dried (e.g., lyophilized) until use. However, it is preferable to use the fresh aloe (not dried) in. . .
- SUMM . . . in the art, or may be commercially available from a variety of sources which manufacture bulk supplies of the aloe **juice** or gel. For example, as stated above, the mucilaginous parenchymous tissue may be excised from leaves of the plant. The. . .
- SUMM . . . preferably less than about 2%. Methods of separating anthraquinones (and the aloe latex) from the "aloe" (again, herein the aloe **juice** or gel) are commonly known in the art. See e.g., Cappaso et al., p. S124.
- SUMM The compositions described herein are useful in a wide variety of finished products, including pharmaceutical, **food**, and beverage compositions. Preferably, the products are useful for providing a mammalian skin hydrating benefit, and are used in beverage. . .
- SUMM . . . beverages), milks, coffees, teas, colas, and fruit juices,

preferably teas and fruit juices, and often preferably a tea and fruit **juice** combination.

SUMM . . . from flavor agents, sugar syrups, and other sources, e.g., gum solutions. Water of hydration of, for example, calcium and other **solids**, is also included. Wherein water is included, water is preferably included at levels from about 0.1% to about 99.999%, more. .

SUMM Dilute **juice** beverages of the present invention may optionally, but preferably, comprise from about 0.2% to about 5%, preferably from about 0.5%. . .

SUMM . . . emulsions, the clouding agent can comprise one or more fats or oils stabilized as an oil-in-water emulsion using a suitable **food** grade emulsifier. Any of a variety of fats or oils may be employed as the clouding agent, provided that the. . .

SUMM Any suitable **food** grade emulsifier can be used that can stabilize the fat or oil clouding agent as an oil-in-water emulsion. Suitable emulsifiers include gum acacia, modified **food** starches (e.g., alkenylsuccinate modified **food** starches), anionic polymers derived from cellulose (e.g., carboxymethylcellulose), gum ghatti, modified gum ghatti, xanthan gum, tragacanth gum, guar gum, locust. . .

SUMM . . . beverage without separating out and rising to the top. The beverage opacifier provides the appearance to the consumer of a **juice**-containing beverage. Any suitable weighting oil can be employed in the beverage opacifier. Typical weighting oils include brominated vegetable oil, glycerol. . .

SUMM . . . or more flavor agents. Preferably, such flavor agents are included in the beverage compositions and are typically selected from fruit **juice**, milk **solids**, fruit flavors, botanical flavors, and mixtures thereof. Wherein fruit **juice** is included, the beverages of the present invention can comprise from about 0.1% to about 99%, preferably from about 1%. . . about 50%, more preferably from about 2% to about 15%, and most preferably from about 3% to about 6%, fruit **juice**. (As measured herein, the weight percentage of fruit **juice** is based on a single strength 2.degree. to 16.degree. Brix fruit **juice**). The fruit **juice** can be incorporated into the beverage as a puree, comminute, or as a single strength or concentrated **juice**. Especially preferred is incorporation of the fruit **juice** as a concentrate with a **solids** content (primarily as sugar **solids**) of from about 20.degree. to about 80.degree. Brix.

SUMM The fruit **juice** can be any citrus **juice**, non-citrus **juice**, or mixture thereof, which are known for use in dilute **juice** beverages. The **juice** can be derived from, for example, apple, cranberry, pear, peach, plum, apricot, nectarine, grape, cherry, **currant**, raspberry, gooseberry, elderberry, blackberry, blueberry, strawberry, lemon, lime, mandarin, orange, grapefruit, cupuacu, potato, tomato, lettuce, celery, spinach, cabbage, watercress, dandelion,. . .

SUMM . . . or the condensate contains volatile substances which comprise the flavor of the fruit. Often, such flavor is added to a **juice** concentrate to enhance the flavor thereof. The condensate may also be used to flavor "near waters" (lightly flavored water).

SUMM Beverages according to the present invention may also comprise milk **solids**. These milk **solids** can be derived from various sources including whole milk, skim milk, condensed milk, and dried milk powder. As used herein, the term "milk" will be used to describe an aqueous dispersion of milk **solids**, such as fluid (whole or skim milk) or non-fat dry milk or condensed milk diluted with water. The amount of. . .

SUMM **Food** and beverage compositions according to the present invention can further comprise thickeners, including xanthan gum, carboxymethylcellulose, carboxyethylcellulose, hydroxypropylcellulose, methylcellulose, microcrystalline. . .

SUMM The **food** and beverage compositions of the present invention can, and typically will, contain an effective amount of one or more sweeteners,

SUMM sugar sweeteners can be provided to some extent by other components of the beverage such as, for example, the fruit **juice** component and/or flavors.

SUMM is commercially available as HFCS-42, HFCS-55 and HFCS-90, which comprise 42%, 55% and 90%, respectively, by weight of the sugar **solids** therein, as fructose. Other naturally occurring sweeteners or their purified extracts, such as glycyrrhizin, the protein sweetener thaumatin, the **juice** of Luo Han Guo disclosed in, for example, Fischer et al., U.S. Pat. No. 5,433,965, issued Jul. 18, 1995, and,

SUMM #1, and the like. Additionally, a mixture of FD&C dyes or a FD&C lake dye in combination with other conventional **food** and **food** colorants may be used. Riboflavin and .beta.-carotene may also be used. The exact amount of coloring agent used will vary,

SUMM The compositions herein (particularly the **food** and beverage compositions) can be fortified with one or more nutrients, especially one or more vitamins and/or minerals. The U.S. Recommended Daily Intake (USRDI) for vitamins and minerals are defined and set forth in the Recommended Daily Dietary Allowance-**Food** and Nutrition Board, National Academy of Sciences-National Research Council.

SUMM ferric salts can also provide highly bioavailable sources of iron. Highly bioavailable ferric salts that can be used in the **food** or beverage compositions of the present invention are ferric saccharate, ferric ammonium citrate, ferric citrate, ferric sulfate, as well as,

SUMM In addition to these highly bioavailable ferrous and ferric salts, other sources of bioavailable iron can be included in the **food** and beverage compositions of the present invention. Other sources of iron particularly suitable for fortifying products of the present invention. . . .

SUMM **Food** and beverage compositions can be made which further comprise one or more dietary fibers. By "dietary fiber" is meant complex. . . . also be used. Naturally occurring fibers include fiber from whole citrus peel, citrus albedo, sugar beets, citrus pulp and vesicle **solids**, apples, apricots, and watermelon rinds.

SUMM acidity can be adjusted to and maintained within the requisite range by known and conventional methods, e.g., the use of **food** grade acid buffers. Typically, beverage acidity within the above recited ranges is a balance between maximum acidity for microbial inhibition. .

DETD

Ingredient Wt. %

Red Grape Extract (commercially available as 2.00
 Nutrifood .RTM., GNT International, Netherlands)
 Apple **Juice** 3.00
 Decaffeinated Green Tea Extract 0.15
 Ginseng Extract (Panax) 0.0125
 Glycerol 4.00
 Aloe Vera **Juice** 1.00
 Citric Acid 0.10
 Sodium Citrate 0.10
 Flavors 0.5
 Aspartame 0.004
 Acesulfame K 0.009
 Ascorbic Acid 40.0 (mg/100 g)
 Vitamin E 15 (mg/100 g)
 Beta Carotene 7.2 (mg/100. . . .
 DETD

Ingredient Wt %

Fruit Juice Single Strength 10.00
 Decaffeinated Green Tea Extract 0.20
 Aloe Gel 1.50
 Glycerol 4.50
 Sucrose 7.00
 Citric Acid 0.20
 Sodium Citrate. . .

L11 ANSWER 4 OF 12 USPATFULL

ACCESSION NUMBER: 2001:196611 USPATFULL
 TITLE: Compressed lecithin preparations
 INVENTOR(S): Orthoefer, Frank T., Chesterfield, MO, United States
 PATENT ASSIGNEE(S): Lecigel, LLC, Winchester, VA, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|--------------|
| PATENT INFORMATION: | US 6312703 | B1 | 20011106 |
| APPLICATION INFO.: | US 1999-245289 | | 19990205 (9) |

| | NUMBER | DATE |
|-----------------------|--|---------------|
| PRIORITY INFORMATION: | US 1998-73990P | 19980206 (60) |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | GRANTED | |
| PRIMARY EXAMINER: | Kishore, Gollawudi S. | |
| LEGAL REPRESENTATIVE: | Hunton & Williams | |
| NUMBER OF CLAIMS: | 16 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 2 Drawing Figure(s); 2 Drawing Page(s) | |
| LINE COUNT: | 848 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . as powders or granules by mixing with other foods such as ready-to-eat cereals or dissolved in drinks such as fruit juice . These products are difficult to dissolve and generally have an undesirable texture and taste. Formulated dry lecithin supplements for use in milk or juice solids are intended for hydration prior to consumption. These, however, suffer from low potency and high cost.

SUMM . . . acid and coenzyme Q), proteolytic enzymes, terpenes (i.e., carotenoids, xanthophylls, limonoids, phytosterols, and herbal terpenes), phenols (i.e., flavones, flavonols, flavanones, anthocyanidins, catechins, isoflavones), thiols, glucosinolates, indoles, isoprenoids, among others. For example, lecithin is well known for its synergistic action with vitamin. . .

DETD Phospholipids have a number of desirable health benefits and are used in a number of food and cosmetic products for a variety of different uses. Phospholipid compounds are high in vitamin E and fatty acids, which. . . and which are also beneficial when placed on the skin. Traditionally, phospholipids have been an additive used to help emulsify food products, as well as being placed in cosmetics and other goods as an emulsifier. To date, a high percentage solid. . . the phospholipids and the nature of the additives in the powdered phospholipids. The addition of oils such as jojoba, borage, black currant, evening primrose, tocopherol, tocotrienol, or vegetable oils, to as much as 25% by weight of the powdered or granular phospholipid,. . .

DETD . . . an amount of the powdered or granular phospholipids which are commercially available and come in a variety of grades, including food grade, technical, bleached, unbleached, and enriched.

Regardless of the type of powdered or granular phospholipids selected, it is preferred for. . .

DETD . . . USP Aquaphor, equal to 10% by weight of the total composition. The phospholipid and Aquaphor were mixed in a standard food processor prior to placement in the die chamber.

DETD . . . place of a portion of phospholipid, 5 grams of lanolin was mixed with 45 grams of powdered phospholipid in a food processor. The 50 gram mixture was compressed as in Example 1.

DETD . . . in Example 1 was prepared but in place of a portion of the phospholipid, 32 grams of borage oil (Bioriginal Food and Science Corp), 0.8 grams of green tea extract (Anhui Tongling Co), and 1.6 grams of tocotrienol complex (Eastman Chemical Co), was mixed with 45.6 grams of powdered phospholipid in a food processor. The 80 gram mixture was compressed as in Example 1.

DETD . . . primrose oil (Now Foods) and 2.6 grams of tocotrienol complex was mixed with 111 grams of powdered phospholipid in a food processor. The 123 gram mixture was compressed as in Example 1.

DETD . . . 400 IU .alpha.-tocopherol (Sundown Vitamins) was mixed with 17.5 grams of Central Soya Centrolex D 6440 powdered phospholipid in a food processor. The phospholipid .alpha.-tocopherol preparation was compressed for one minute at 5000 psig before it was extruded. This 23.3-gram mixture. . .

DETD . . . complex, and 0.6 grams of monoglyceride (American Ingredients Co Alphadim 90NLK) was mixed with 46 grams of phospholipid in a food processor. This 60 gram composition was extruded at a pressure of 1500 psig and exited the die as a continuous. . .

DETD . . . place of a portion of the phospholipid, 30% by weight of .alpha.-tocopherol was mixed with 70% powdered phospholipid in a food processor. After extrusion, the LCP was cut into lengths having a weight of 5 mg each. These were fed to. . .

DETD . . . by weight of .alpha.-tocopherol and 2% by weight of Medium Chain Triglycerides were mixed with 68% powdered phospholipids in a food processor. After extrusion the LCP was cut into lengths having a weight of 5 mg each. These were fed to. . .

DETD A combination of 30% .alpha.-tocopherol and 70% starch was mixed in a food processor without phospholipids. This mixture was weighed into dosages of 5 mg each and fed to Golden Syrian hamsters. The. . .

L11 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:706936 CAPLUS

DOCUMENT NUMBER: 133:265961

TITLE: Nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-methyl ester

INVENTOR(S): Ponakala, Subbarao V.; Walters, Gale C.; Gerlat, Paula A.; Hatchwell, Leora C.

PATENT ASSIGNEE(S): The Nutrasweet Company, USA

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|--|----------|-----------------|----------|
| WO 2000057726 | A1 | 20001005 | WO 2000-US8210 | 20000329 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, | | | |

CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 1999-126654P P 19990329

REFERENCE COUNT:

8

THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

- IT Fruit and vegetable juices
Fruit and vegetable juices
(apricot juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Fruit and vegetable juices
Fruit and vegetable juices
(black currant; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Proteins, general, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(food shakes; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Syrups (sweetening agents)
(hydrolyzed starch, solids; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Actinidia chinensis
Apricot (Prunus armeniaca)
Apricot (Prunus armeniaca)
Blackberry
Blueberry
Boysenberry
Cherry
Cherry
Cranberry
Cranberry
Currant (Ribes nigrum)
Currant (Ribes nigrum)
Date (Phoenix dactylifera)
Fig (Ficus carica)
Loganberry
Mango (Mangifera indica)
Mango (Mangifera indica)
Nectarine (Prunus persica nectarina)
Papaya (Carica papaya)
Passionflower (Passiflora)
Peach (Prunus persica)
Peach (Prunus persica)
Plum
Plum
Prune
Prune
Raisin
Raspberry
Raspberry
Rubus occidentalis
Sour cherry
Watermelon (Citrullus lanatus)
(juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Fruit and vegetable juices
(lime juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Fruit and vegetable juices
Fruit and vegetable juices
(mango juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
- IT Maple sap products

Maple sap products
(maple syrup, **solids**; nutraceuticals having
N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me
ester)

IT Syrups (sweetening agents)
Syrups (sweetening agents)
(maple, **solids**; nutraceuticals having N-[N-(3,3-
dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)

IT Acacia greggii
Acerola
Agropyron
Alfalfa (Medicago sativa)
Aloe barbadensis
Angelica
Angelica sinensis
Antioxidants
Apple juice
Arctostaphylos
Astragalus
Bacteria (Eubacteria)
Bifidobacterium bifidum
Bilberry
Black cohosh
Brassica
Broccoli
Burdock
Centella asiatica
Chamomile
Chicory (Cichorium intybus)
Chlorella
Chrysanthemum parthenium
Clover (Trifolium pratense)
Cranberry
Dairy products
Dandelion
Drugs
Echinacea
Echinacea angustifolia
Echinacea purpurea
Elder (Sambucus)
Enterococcus faecium
Ephedra sinica
Eriodictyon glutinosum
Euphrasia
Evening primrose (Oenothera)
Fenugreek (Trigonella foenum-graecum)
Flavoring materials
Flaxseed
Fruit and vegetable juices
Garlic (Allium sativum)
Gentian (Gentiana)
Ginger
Ginkgo biloba
Ginseng (Panax)
Grape juice
Grapefruit juice
Guarana (Paullinia cupana)
Hawthorn (Crataegus)
Herb
Horehound (Marrubium vulgare)
Horse chestnut (Aesculus)
Juniper (Juniperus)
Lactobacillus acidophilus
Lactobacillus plantarum

Lemon juice
 Lovage
 Mate (*Ilex paraguariensis*)
 Melissa officinalis
 Nutrients
 Orange juice
 Passionflower (*Passiflora*)
 Pear juice
 Pepper (*Piper methysticum*)
 Peppermint (*Mentha piperita*)
 Pineapple juice
 Plant (*Embryophyta*)
 Schisandra
 Seaweed
Serenoa repens
Silybum marianum
 Soybean (*Glycine max*)
 Spirulina
 St.-John's-wort (*Hypericum*)
 Sweetening agents
 Tomato juice
Viburnum opulus
Viburnum prunifolium
Vitex agnus-castus
 Yohimbe (*Corynanthe johimbe*)
 (nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT Alkaloids, biological studies
 Anthocyanins
 Carbohydrates, biological studies
 Carotenes, biological studies
 Enzymes, biological studies
 Fats and Glyceridic oils, biological studies
 Fatty acids, biological studies
 Ginsenosides
 Lecithins
 Linseed oil
 Mineral elements, biological studies
 Nucleic acids
 Thaumatins
 Ubiquinones
 Vitamins
 RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT Fruit and vegetable juices
 Fruit and vegetable juices
 (peach juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT Fruit and vegetable juices
 Fruit and vegetable juices
 (plum juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT Fruit and vegetable juices
 Fruit and vegetable juices
 (prune juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT Fruit and vegetable juices
 Fruit and vegetable juices
 (raspberry juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT **Currant** (*Ribes*)
 (red, juice; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-

.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT **Food**
 (stanol ester-contg.; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-
 .alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT **Honey**
 (syrup **solids**; nutraceuticals having N-[N-(3,3-dimethylbutyl)-
 L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester)
 IT **Grape juice**
 (white; nutraceuticals having N-[N-(3,3-dimethylbutyl)-L-.alpha.-
 aspartyl]-L-phenylalanine 1-Me ester)

L11 ANSWER 6 OF 12 USPATFULL

ACCESSION NUMBER: 2000:101887 USPATFULL
 TITLE: Dry composition containing flavonol useful as a
food supplement
 INVENTOR(S): Howard, Alan Norman, Cambridge, United Kingdom
 Nigdikar, Shailja Vijay, Suffolk, United Kingdom
 Rajput-Williams, Jayshri, Cambridge, United Kingdom
 Williams, Norman Ross, Cambridgeshire, United Kingdom
 PATENT ASSIGNEE(S): The Howard Foundation, Cambridge, United Kingdom
 (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|--------------|
| PATENT INFORMATION: | US 6099854 | | 20000808 |
| APPLICATION INFO.: | US 1997-934055 | | 19970919 (8) |

| | NUMBER | DATE |
|-----------------------|--|----------|
| PRIORITY INFORMATION: | GB 1996-19700 | 19960920 |
| | GB 1997-11171 | 19970531 |
| | GB 1997-11172 | 19970531 |
| | GB 1997-11173 | 19970531 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | Granted | |
| PRIMARY EXAMINER: | Page, Thurman K. | |
| ASSISTANT EXAMINER: | Faulkner, D. | |
| LEGAL REPRESENTATIVE: | Pillsbury Madison & Sutro LLP | |
| NUMBER OF CLAIMS: | 19 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 6 Drawing Figure(s); 2 Drawing Page(s) | |
| LINE COUNT: | 1544 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Dry composition containing flavonol useful as a **food**
 supplement
 AB A flavonol-containing dry composition derived from wine and useful as a
food supplement is provided wherein at least 25% of the
 composition derived from wine includes polyphenols and at least 1.0%
 w/w.
 SUMM This invention relates, inter alia, to certain compositions, uses
 thereof, and to **food** supplements and drinks for human
 consumption containing the compositions.
 SUMM . . . weights. The chief polyphenol components of grapes and wine,
 and their concentrations, are described by Shahidi & Nazck (1995) in "
Food phenolics: sources, chemistry, effects and applications"
 (Technomic Publishing Co., Lancaster Pa., USA) p136-146. Among the
 polyphenols are the following classes: . . . more commonly in Europe
 to denote only the flavones), the flavanols, proanthocyanidins (also
 called procyanidols, procyanins, procyanidins and tannins) and
anthocyanins.
 SUMM The **anthocyanins** are coloured substances with a basic
 structure shown in FIG. 5. They are sometimes called
anthocyanidins. Typical examples are: cyanidin (hydroxylated at
 positions 3, 5, 7, 3', 4'), delphinidin (hydroxylated at positions 3, 5,

7, 3', . . .

- SUMM . . . by Frankel et al., (Lancet 1993, cited above) were also reported by Frankel et al in 1995 (J. Agricult. and Food Chemistry 43, 890-894). The authors of this publication draw attention to the difficulty of interpreting in vitro data. Thus "Although. . .
- SUMM . . . into the fermenting wine. Hence, French Paradox capsules have actually rather low polyphenol content. (Other publicly available compositions include an **anthocyanin**-containing powder (obtainable from Sefcal) made from a grape skin extract, and which is used as a **food** colourant, and a proanthocyanidin-containing composition ("Endotelon") prepared from grape seeds.)
- SUMM . . . organic solvent extracts of plants or parts thereof, fruit juices and fermented liquors (e.g. wine) produced from plants or fruit **juice**, or compositions obtained from any of the foregoing. The plant material is typically processed (physically and/or chemically) during production of. . .
- SUMM The compositions conveniently comprise polyphenols (including flavonols) obtained from grapes (whole grapes or parts thereof, such as skins or **juice**), wine (especially red wine, which comprises much higher concentrations of polyphenols than white wine), or by-products and/or waste products of the wine-making process, such as pomace (i.e. the residue of crushed grapes following **juice** extraction) or marc (waste **solids** remaining after initial fermentation). However, polyphenols such as flavonols are present in a wide range of naturally occurring materials, many. . .
- SUMM . . . extraction using a suitable organic solvent immiscible with the wine or other liquid. Alternatively, polyphenols may be obtained from polyphenol-containing **solids** by solvent extraction (typically extraction with an organic solvent such as ethanol or ethyl acetate)--the **solids** can then be separated from the solvent by filtration or centrifugation. The solvent may then be evaporated to leave a. . .
- SUMM In preferred embodiments, the composition is presented as a **food** supplement. This may be a substance to add as an additional ingredient during manufacture of the foodstuff, or may be. . . be consumed by an individual (e.g. as a tablet or capsule) substantially in isolation from (i.e. not mixed with) other **food** components prior to consumption (although, of course, the tablet or capsule may be taken with **food**). The invention thus includes within its scope a product, particularly a foodstuff, comprising a composition in accordance with the invention.. . .
- SUMM . . . could be effected by column chromatography, solvent extraction, molecular sieves with semi-permeable membranes, or other method(s) conventionally used in the **food** industry. The advantage is that the weight of active substance is less, and the colour and taste of the supplement. . .
- SUMM Compositions in accordance with the invention may be prepared using the active polyphenol agents in accordance with conventional **food** supplement or pharmaceutical practice. The diluents, excipients or carriers etc. which may be used are well known in the formulation. . .
- SUMM Moreover, the compositions may comprise any number of further components, such as those typically used in the **food** industry and/or in the pharmaceutical industry. Such components may include nutrients (especially trace elements and vitamins), antioxidants, therapeutic substances (especially. . .
- SUMM . . . dose of polyphenols when dissolved in water (still or aerated) flavoured and sweetened to taste, or dissolved in a fruit **juice** e.g. grape, apple or orange etc.
- SUMM Other presentations are as a **food** ingredient in dairy products such as milk and yoghurts, preserves, and dietary products intended as meal supplements or replacements. The. . .
- SUMM Medicaments having this effect may take the form of **food** supplements or ingredients, as explained above, and should be useful in the prevention or treatment of coronary heart disease. Suitable. . .

DRWD FIG. 5 is a schematic representation of the core structure of
anthocyanins; and
 DETD The polyphenol powder is an excellent food ingredient having a
 dark red colour when dissolved in water or aqueous alcohol, being quite
 palatable, and giving a "bite". . . .
 DETD . . . phenol powder
 acid equiv mg/L

| | % | mg/g | % |
|----------------------|----|------|----|
| Hydroxycinnamic acid | | | |
| 165 | 15 | 18 | 3 |
| Catechins 200 | 17 | 38 | 6 |
| Flavonols 20 | 2 | 14 | 2 |
| Anthocyanins | | | |
| 200 | 17 | 70 | 11 |
| Proanthocyanidins | | | |
| 550 | 49 | 480 | 77 |
| TOTAL 1135 | | 620 | |

DETD 6) 50 mgs/day **anthocyanins**, as grape skin extract (Sefcal, St
 Julien de Peyrolas, France) given as a drink
 DETD There was no effect with white wine, **anthocyanin** powder
 (Sefcal.TM., an extract from grape skins used as a food
 colorant) red wine pomace, French Paradox.TM. capsules (Arkopharma) or
 Endotelon.TM. (Sanofi-Winthrop, a proanthocyanidin preparation from
 grape seeds), nor with the. . .

| | | | | |
|---------------------|---|--|---|----|
| DETD | | | | + |
| PP2 powder 6 | + | | + | + |
| White wine + PP1 | | | | |
| 6 | + | | + | + |
| Alcoholic drink | | | | |
| 6 | - | | - | - |
| Anthocyanins | | | | |
| 5 | - | | - | - |
| Red wine Marc | | | | |
| 6 | - | | - | ND |
| Grape seed 6 | - | | - | - |
| proanthocyanidins | | | | |
| Green tea extract | | | | |

| | | | | |
|---------------------|------|----|------|---------|
| DETD | | | | 0.070 |
| White wine + PP1 | | | | |
| 6 | 17.6 | +- | 4.0 | |
| | | | 22.6 | +- 1.7 |
| | | | | 0.020 |
| Alcoholic drink | | | | |
| 6 | 23.9 | +- | 1.0 | |
| | | | 24.0 | +- 1.2 |
| | | | | 0.860 |
| Anthocyanins | | | | |
| 5 | 19.2 | +- | 6.4 | |
| | | | 21.4 | +- 3.1 |
| | | | | 0.580 |
| Red wine Marc | | | | |
| 6 | 22.6 | +- | 0.7 | |
| | | | 23.4 | +- 1.2 |
| | | | | 0.158 |
| Grape seed 6. . . | | | | |
| DETD | | | | 0.006 |
| White wine + PP1 | | | | |
| 6 | 33.5 | +- | 6.3 | |
| | | | 54.2 | +- 21.0 |
| | | | | 0.040 |
| Alcoholic drink | | | | |

| | | | | | |
|--|---|----------|----|------|----------|
| | 6 | 39.4 | +- | 4.5 | |
| | | | | 43.7 | +- 1.6 |
| | | | | | 0.084 |
| Anthocyanins | | | | | |
| | 5 | 40.0 | +- | 5.6 | |
| | | | | 36.2 | +- 6.0 |
| | | | | | 0.520 |
| Red wine Marc | | | | | |
| | 6 | 41.7 | +- | 3.6 | |
| | | | | 38.4 | +- 3.4 |
| | | | | | 0.063 |
| Grape seed 6. . . | | | | | |
| DETD . . . 0.018 | | | | | |
| White wine + PP1 | | | | | |
| | 6 | 1.70 | +- | 0.51 | |
| | | | | 1.19 | +- 0.19 |
| | | | | | 0.040 |
| Alcoholic drink | | | | | |
| | 6 | 1.60 | +- | 0.25 | |
| | | | | 1.50 | +- 0.40 |
| | | | | | 0.460 |
| Anthocyanins | | | | | |
| | 5 | 3.04 | +- | 0.73 | |
| | | | | 2.93 | +- 0.56 |
| | | | | | 0.260 |
| Red wine Marc | | | | | |
| | 6 | not done | | | |
| Grape seed 6 | | | | | |
| | | 1.69 | +- | 0.13 | |
| | | | | 1.47 | +- . . . |
| DETD . . . 0.001 | | | | | |
| White wine + PP1 | | | | | |
| | 6 | 54.8 | +- | 2.6 | |
| | | | | 66.5 | +- 5.2 |
| | | | | | 0.007 |
| Alcoholic drink | | | | | |
| | 6 | 54.0 | +- | 4.6 | |
| | | | | 56.6 | +- 4.2 |
| | | | | | 0.140 |
| Anthocyanins | | | | | |
| | 5 | 53.0 | +- | 4.4 | |
| | | | | 51.5 | +- 3.11 |
| | | | | | 0.650 |
| Red wine Marc | | | | | |
| | 6 | 62.0 | +- | 2.7 | |
| | | | | 60.3 | +- 5.2 |
| | | | | | 0.500 |
| Grape seed 6. . . | | | | | |
| DETD . . . powder would have potential prophylactic activity against coronary heart disease. Other products such as grape skin extract used in the food industry as a colorant, a proanthocyanidin preparation, French Paradox capsules and a green tea extract containing catechins and their esters. . . | | | | | |
| DETD 4) Sefcal.TM. anthocyanin , as described in example 2 | | | | | |
| DETD . . . with all substances added at a level of 4 .mu.g/ml. The order of the magnitude of effect observed was: polyphenol powder= | | | | | |
| anthocyanins>green tea catechins>grape seed | | | | | |
| proanthocyanidins>red wine>white wine>red wine marc. | | | | | |
| DETD . . . antho- | | | | | |
| 500 | | | | | |
| mg/g | | | | | |
| 66 255 | | | | | |
| +++ 500 -1.5 | | | | | |
| -8 - | | | | | |
| cyanins | | | | | |

Grape seed pro-

425

mg/g

50 190

+++ 750 -6.7
-38

anthocyanins

Red wine Marc

210

mg/g

18 70

+ 156 -1.7
-10

Green tea catechins

960

mg/g

75 290

+++ 300 -6.8

DETD A) A **blackcurrant** flavoured drink (330 ml) containing 1 g
total red wine polyphenols and mixed with a commercially available
powder (sugar, citric. . . .
DETD Frankel et al (1995) J. Agriculture and Food Chem. 43, 890-894
DETD Shahidi & Nazck (1995) in Food phenolics, sources chemistry
effects and applications
CLM What is claimed is:
1. A flavonol and **anthocyanin** containing dry composition
prepared from wine comprising at least 25% w/w polyphenols, said
composition comprising at least 1% w/w flavonol,. . . .
. . . wherein said physiologically acceptable liquid is selected from the
group consisting of water, an aqueous solution, an alcoholic solution,
fruit juice, milk, and yogurt.
. . . by a human subject for inhibiting oxidation of plasma LDL in said
subject, said medicament comprising a dry flavonol and
anthocyanin containing composition prepared from wine,
comprising at least 25% w/w polyphenols, said composition comprising at
least 1% w/w flavonol, wherein. . . .
. . . for consumption by a human subject for stimulating TGF-.beta.
production in said subject, said medicament comprising a dry flavonol
and **anthocyanin** containing composition prepared from wine,
comprising at least 25% w/w polyphenols, said composition comprising at
least 1% w/w flavonol, wherein. . . .
. . . a human subject for inhibiting platelet aggregation or stimulating
fibrinolysis in said subject, said medicament comprising a dry flavonol
and **anthocyanin** containing composition prepared from wine,
comprising at least 25% w/w polyphenols, said composition comprising at
least 1% w/w flavonol, wherein. . . .

L11 ANSWER 7 OF 12 USPATFULL

ACCESSION NUMBER: 2000:87741 USPATFULL

TITLE: Food supplements

INVENTOR(S): Howard, Alan Norman, Cambridge, United Kingdom
Nigdikar, Shailja Vijay, Suffolk, United Kingdom
Rajput-Williams, Jayshri, Cambridge, United Kingdom
Williams, Norman Ross, Cambridgeshire, United Kingdom
PATENT ASSIGNEE(S): The Howard Foundation, Cambridge, United Kingdom
(non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|------------|------|----------|
| PATENT INFORMATION: | US 6086910 | | 20000711 |

APPLICATION INFO.: US 1997-978158 19971125 (8)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-934055, filed
on 19 Sep 1997
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: MacMillan, Keith D.
ASSISTANT EXAMINER: Faulkner, D.
LEGAL REPRESENTATIVE: Pillsbury Madison & Sutro
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1561
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI **Food** supplements
SUMM This invention relates, inter alia, to certain compositions, uses thereof, and to **food** supplements and drinks for human consumption containing the compositions.
SUMM . . . weights. The chief polyphenol components of grapes and wine, and their concentrations, are described by Shahidi & Nazck (1995) in "**Food** phenolics: sources, chemistry, effects and applications" (Technomic Publishing Co., Lancaster Pa., USA) p136-146. Among the polyphenols are the following classes: . . . more commonly in Europe to denote only the flavones), the flavanols, proanthocyanidins (also called procyanidols, procyanins, procyanidins and tannins) and **anthocyanins**.
SUMM The **anthocyanins** are coloured substances with a basic structure shown in FIG. 5. They are sometimes called **anthocyanidins**. Typical examples are: cyanidin (hydroxylated at positions 3, 5, 7, 3', 4'), delphinidin (hydroxylated at positions 3, 5, 7, 3', . . .
SUMM . . . by Frankel et al., (Lancet 1993, cited above) were also reported by Frankel et al in 1995 (J. Agricult. and **Food** Chemistry 43, 890-894). The authors of this publication draw attention to the difficulty of interpreting in vitro data. Thus "Although. . .
SUMM . . . into the fermenting wine. Hence, French Paradox capsules have actually rather low polyphenol content. (Other publicly available compositions include an **anthocyanin**-containing powder (obtainable from Sefcal) made from a grape skin extract, and which is used as a **food** colourant, and a proanthocyanidin-containing composition ("Endorelon") prepared from grape seeds.)
SUMM . . . organic solvent extracts of plants or parts thereof, fruit juices and fermented liquors (e.g. wine) produced from plants or fruit **juice**, or composition obtained from any of the foregoing. The plant material is typically processed (physically and/or chemically) during production of. . .
SUMM The composition may comprise flavonols (including quercetin) obtained from grapes (whole grapes or parts thereof, such as skins or **juice**), wine (especially red wine, which comprises much higher concentrations of polyphenols than white wine), or by-products and/or waste products of the wine-making process, such as pomace (i.e. the residue of crushed grapes following **juice** extraction) or marc (waste **solids** remaining after initial fermentation). However, flavonols such as quercetin are present in a wide range of naturally occurring materials, many. . .
SUMM . . . extraction using a suitable organic solvent immiscible with the wine or other liquid. Alternatively, flavonols may be obtained from flavonol-containing **solids** by solvent extraction (typically extraction with an organic solvent such as ethanol or ethyl acetate)--the **solids** can then be separated from the solvent by filtration or centrifugation. The solvent may then be evaporated to leave a. . .
SUMM In preferred embodiments, the composition is presented as a **food** supplement. This may be substance to add as an additional ingredient during manufacture of the foodstuff, or may be a. . . be consumed by

an individual (e.g. as a tablet or capsule) substantially in isolation from (i.e. not mixed with) other **food** components prior to consumption (although, of course, the tablet or capsule may be taken with **food**). The invention thus includes within its scope a prepared product, particularly a prepared foodstuff (i.e. one which is not naturally. . .

SUMM . . . could be effected by column chromatography, solvent extraction, molecular sieves with semi-permeable membranes, or other method(s) conventionally used in the **food** industry. The advantage is that the weight of active substance is less, and the colour and taste of the supplement. . .

SUMM Compositions in accordance with the invention may be prepared using the active flavonol agents in accordance with conventional **food** supplement or pharmaceutical practice. The diluents, excipients or carriers etc. which may be used are well known in the formulation. . .

SUMM Moreover, the compositions may comprise any number of further components, such as those typically used in the **food** industry and/or in the pharmaceutical industry. Such components may include nutrients (especially trace elements and vitamins), antioxidants, therapeutic substances (especially. . .

SUMM . . . dose of flavonols when dissolved in water (still or aerated) flavoured and sweetened to taste, or dissolved in a fruit **juice** e.g. grape, apple or orange etc.

SUMM Other presentations are as a **food** ingredient in dairy products such as milk and yoghurts, preserves, and dietary products intended as meal supplements or replacements. The. . .

SUMM Medicaments having this effect may take the form of **food** supplements or ingredients, as explained above, and should be useful in the prevention or treatment of coronary heart disease. Suitable. . .

DRWD FIG. 5 is a schematic representation of the core structure of **anthocyanins**; and

DETD The polyphenol powder is rich in flavonols (such as quercetin) and is an excellent **food** ingredient having a dark red colour when dissolved in water or aqueous alcohol, being quite palatable, and giving a "bite". . .

DETD 6) 50 mgs/day **anthocyanins**, as grape skin extract (Sefcal, St Julien de Peyrolas, France) given as a drink

DETD There was no effect with white wine, **anthocyanin** powder (Sefcal.TM., an extract from grape skins used as a **food** colorant) red wine pomace, French Paradox.TM. capsules (Arkopharma) or Endotelon.TM. (Sanofi-Winthrop, a proanthocyanidin preparation from grape seeds), nor with the. . .

DETD +
 PP2 powder 6 + + + +
 White wine + PP1
 6 + + + +
 Alcoholic drink
 6 - - - -
 Anthocyanins
 5 - - - -
 Red wine Marc
 6 - - - - ND
 Grape seed 6 - - - -
 proanthocyanidins
 Green tea extract
 7. . . .

DETD 0.070
 White wine + PP1
 6 17.6 .+- 4.0
 22.6 .+- 1.7
 0.020
 Alcoholic drink
 6 23.9 .+- 1.0
 24.0 .+- 1.2

| | | | |
|---------------------|------|----|--------------|
| | | | 0.860 |
| Anthocyanins | | | |
| 5 | 19.2 | +- | 6.4 |
| | | | 21.4 +- 3.1 |
| | | | 0.580 |
| Red wine Marc | | | |
| 6 | 22.6 | +- | 0.7 |
| | | | 23.4 +- 1.2 |
| | | | 0.158 |
| Grape seed 6. | | | |
| DETD | | | 0.006 |
| White wine + PP1 | | | |
| 6 | 33.5 | +- | 6.3 |
| | | | 54.2 +- 21.0 |
| | | | 0.040 |
| Alcoholic drink | | | |
| 6 | 39.4 | +- | 4.5 |
| | | | 43.7 +- 1.6 |
| | | | 0.084 |
| Anthocyanins | | | |
| 5 | 40.0 | +- | 5.6 |
| | | | 36.2 +- 6.0 |
| | | | 0.520 |
| Red wine Marc | | | |
| 6 | 41.7 | +- | 3.6 |
| | | | 38.4 +- 3.4 |
| | | | 0.063 |
| Grape seed 6. | | | |
| DETD | | | 0.018 |
| White wine + PP1 | | | |
| 6 | 1.70 | +- | 0.51 |
| | | | 1.19 +- 0.19 |
| | | | 0.040 |
| Alcoholic drink | | | |
| 6 | 1.60 | +- | 0.25 |
| | | | 1.50 +- 0.40 |
| | | | 0.460 |
| Anthocyanins | | | |
| 5 | 3.04 | +- | 0.73 |
| | | | 2.93 +- 0.56 |
| | | | 0.260 |
| Red wine Marc | | | |
| 6 | | | not done |
| Grape seed 6 | 1.69 | +- | 0.13 |
| | | | 1.47 +- .. |
| DETD | | | 0.001 |
| White wine + PP1 | | | |
| 6 | 54.8 | +- | 2.6 |
| | | | 66.5 +- 5.2 |
| | | | 0.007 |
| Alcoholic drink | | | |
| 6 | 54.0 | +- | 4.6 |
| | | | 56.6 +- 4.2 |
| | | | 0.140 |
| Anthocyanins | | | |
| 5 | 53.0 | +- | 4.4 |
| | | | 51.5 +- 3.11 |
| | | | 0.650 |
| Red wine Marc | | | |
| 6 | 62.0 | +- | 2.7 |
| | | | 60.3 +- 5.2 |
| | | | 0.500 |
| Grape seed 6. | | | |
| DETD | | | |

DETD . . . powder would have potential prophylactic activity against

coronary heart disease. Other products such as grape skin extract used in the food industry as a colorant, a proanthocyanidin preparation, French Paradox capsules and a green tea extract containing catechins and their esters. . . .

DETD 4) Sefcal.TM. **anthocyanin**, as described in example 2
 DETD . . . with all substances added at a level of 4 .mu.g/ml. The order of the magnitude of effect observed was: polyphenol powder=
anthocyanins>green tea catechins>grape seed
 proanthocyanidins>red wine>white wine>red wine marc.

DETD
 g/L 22 85 + 75 -0.22 0.2
 -1 -

Polyphenol powder*
 450
 mg/g
 65 230 +++ 450 14.2
 80 ++

Red wine **anthocyanins**
 500
 mg/g
 66 253 +++ 500 -1.5
 -8 -

Grape seed proanthocyanins
 425
 mg/g
 50 190 +++ 750 -6.7
 -38 -

Red. . .
 DETD A) A **blackcurrant** flavoured drink (330 ml) containing 1 g total red wine polyphenols and mixed with a commercially available powder (sugar, citric. . .

DETD Frankel et al (1995) J. Agriculture and Food Chem. 43, 890-894
 DETD Shahidi & Nazek (1995) in Food phenolics, sources chemistry effects and applications Technomic Publishing Co. Lancaster, USA p136-146

CLM What is claimed is:
 1. A flavonol and **anthocyanin** containing dry composition suitable for oral administration comprising at least 1% w/w flavonol, wherein at least 1% w/w flavonol is. . .
 . . . wherein said physiologically acceptable liquid is selected from the group consisting of water, an aqueous solution, an alcoholic solution, fruit juice, milk, and yogurt.
 . . . of inhibiting oxidation of plasma LDL in a human subject, the method comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water to the subject.
 . . . A method of stimulating TGF-.beta. production in a human subject, the method comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water to the subject.
 . . . inhibiting platelet aggregation and/or stimulating fibrinolysis in a human subject, the method comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water to the subject.
 . . . human subject for inhibiting oxidation of plasma LDL in the subject comprising combining administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water with a suitable carrier.
 . . . consumption by a human subject for stimulating TGF-.beta. production in said human subject administering at least 1% of flavonol and

anthocyanin wherein at least 1% w/w flavonol is soluble in water, with a suitable carrier.

. . . by a human subject for inhibiting platelet aggregation and/or stimulating fibrinolysis in said subject at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water, with a suitable carrier.

. . . of fibrinolysis; and stimulation of TGF-.beta. production; the method comprising preparing a composition administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water, to the subject in unitary doses.

. . . A composition suitable for oral administration for inhibiting oxidation of plasma LDL comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water, to the subject and a suitable carrier.

. . . oral administration for inhibiting oxidation of plasma LDL in a human subject comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water and dissolved in a physiologically acceptable liquid dissolved in a . . .

. . . wherein the physiologically acceptable liquid is selected from the group consisting of water, an aqueous solution, an alcoholic solution, fruit juice, milk, and yogurt.

. . . suitable for oral administration for stimulating TGF-.beta. production in a human subject comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water and is dissolved in a physiologically acceptable liquid dissolved in. . .

. . . administration for inhibiting platelet aggregation and/or stimulating fibrinolysis in a human subject comprising administering at least 1% of flavonol and **anthocyanin** wherein at least 1% w/w flavonol is soluble in water and is dissolved in a physiologically acceptable liquid dissolved in. . .

L11 ANSWER 8 OF 12 USPATFULL

ACCESSION NUMBER: 1998:82393 USPATFULL

TITLE: Color and shelf stable beverage compositions containing tea extract

INVENTOR(S): Kirksey, Sanford Theodore, Cincinnati, OH, United States

Ekanayake, Athula, Cincinnati, OH, United States

Pultinas, Jr., Edmund Paul, Cincinnati, OH, United States

Jones, Judith Ann, Cleves, OH, United States

Stradling, Jr., Richard Fiske, Cincinnati, OH, United States

PATENT ASSIGNEE(S): The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|---|------|--------------|
| PATENT INFORMATION: | US 5780086 | | 19980714 |
| APPLICATION INFO.: | US 1996-582593 | | 19960103 (8) |
| DISCLAIMER DATE: | 20140808 | | |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 1994-287334, filed on 8 Aug 1994, now abandoned | | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Corbin, Arthur L. | | |
| LEGAL REPRESENTATIVE: | Clark, Karen F., Gressel, Gerry S. | | |

NUMBER OF CLAIMS: 29
EXEMPLARY CLAIM: 1
LINE COUNT: 943

AB . . . to about 1.5% tea extract wherein the level of caffeine is from about 0.85% to about 3.2%; and the tea **solids** content is from about 12% to about 60%;

SUMM The present invention relates to shelf stable beverages containing tea extract, colorant and/or **juice**. The beverages have the characteristics of the added color and resist browning and precipitation common in tea containing beverages.

SUMM . . . sold in the form of bottled, canned or carton-boxed products. Many of the beverages contain black tea extract with fruit **juice**, fruit aroma or fruit flavors, while others contain only tea flavors. Few products contain green tea extract due to the . . .

SUMM . . . tea extract (i.e. brown, muddy). Still another disadvantage is that the published health benefits of the unoxidized flavanols (green tea **solids**) are not realized by the consumer because black tea which contain polymerized flavanols or tea flavors are typically used in. . .

SUMM . . . commercial beverages avoid degradation reactions by using black tea (which contain small quantities of unoxidized flavanols) or by omitting tea **solids** altogether. Tea essence or tea aromatics are substituted for tea **solids**. Only low levels of unoxidized flavanols are present therefore degradation reactions are limited. Beverages prepared using green tea have a. . .

SUMM Beverages containing tea **solids** and in particular, unoxidized flavanols, and fruit **juice** and/or colorant present a special problem because of the natural amino acids, colorants, sugar and enzymes which may be present. . .

SUMM . . . some consumers with distasteful and old products. The color, flavor and stability of the beverage that contains tea, colorant and/or **juice** is largely dependent on the color and stability of the tea extract. It is known that color stability and flavor. . .

SUMM The manufacture of ready-to-serve beverages containing tea, colorant and/or **juice** is known. During the past couple of years a trend among the consumers has been developed in the direction of a preference for flavored tea beverages having a more **juice**-like and less tea-like appearance, and a correspondingly less astringent tea taste. Therefore, there is a need for a more stable product containing unfermented or partially fermented tea that has a more **juice**-like appearance and **juice**-like taste.

SUMM . . . provide shelf stable beverage compositions and a method for preparing stable beverages containing unfermented and partially fermented tea, colorants and/or **juice**.

SUMM . . . to about 1.5% tea extract wherein the level of caffeine is from about 0.85% to about 3.2%; and the tea **solids** content is from about 12% to about 60%;

SUMM As used herein, the term "**juice**" means whole, concentrated or diluted **juice** from fruits and vegetables and other produce which are squeezed or crushed to supply a beverage. **Juice** also refers to citrus and non-citrus juices including some vegetable juices.

SUMM . . . (RDA). The RDA for vitamins and minerals is as defined in the United States of America (see Recommended Daily Dietary Allowance-Food and Nutrition Board, National Academy of Sciences-National Research Council).

SUMM As used herein, the term "**solids**" refers to the solid materials extracted from the tea solutions which are soluble in water. The **solids** include caffeine, flavanols, amino acids (especially theanine), edible acids, buffering salts, proteins and related materials.

SUMM . . . epicatechin, and their derivatives. These derivatives include the sugar salts, sugar esters, and other edible physiologically available derivatives. Green tea **solids** contain these flavanols. The preferred flavanols are catechin, epicatechin,

gallocatechin, epigallocatechin, epicatechin gallate, and epigallocatechin gallate.

SUMM As used herein "tea extract" refers to the product obtained by extraction of unfermented or partially fermented tea **solids** or tea material. This extraction can be carried out with water or solvents, and the resulting extract can be concentrated, . . .

SUMM The beverages of the present invention comprise tea extract, acids, colorants, and/or **juice**. It has been found that the appearance of the beverage can be stabilized and enhanced if ascorbic acid, erythorbic acid. . .

SUMM The extracts used in the beverage comprise from about 12% to about 60% tea **solids** from about 3% to about 10%, preferably from about 5% to about 8% and more preferably from about 4% to. . .

SUMM The beverages of the present invention preferably comprise certain combinations of FD&C Blue Dye No. 1 (Brilliant Blue FCF, CI Food Blue 2, color index no. 42090), FD&C Red Dye No. 40 (allur red, EI food Red 17, color index no. 16035), FD&C Yellow Dye No. 5, FD&C Dye No. 6, and mixtures thereof. Natural pigments and color additives, for example the **anthocyanins**, flavanols, and carotenoids, beet powder, grape skin extract, tumeric, annatto and paprika may also be used however they are not. . .

SUMM The flavoring system can comprise a fruit **juice** or vegetable **juice**, a fruit or vegetable flavor or mixtures thereof. In particular the combination of tea together with fruit juices have an appealing taste. The **juice** can be provided as **juice** made from apple, cranberry, pear, peach, plum, apricot, nectarine, grape, cherry, **currant**, raspberry, gooseberry, blackberry, blueberry, strawberry, lemon, lime, mandarin, orange, grapefruit, potato, tomato, lettuce, celery, spinach, cabbage, watercress, dandelion, rhubarb, carrot, . . .

SUMM The fruit or vegetable **juice(s)** are present in an amount of from 0% to about 60%, preferably from about 3% to about 35%, and more. . .

SUMM Flavor components which are not substantially **juice**, comprise no more than about 3% of the beverage, preferably such flavor component comprises at least 0.001% by weight of. . .

SUMM Citrus **juice** blends can also contain citrus pulp. From 0% to about 19% (v/v) pulp is acceptable. Preferably, the amount of pulp. . .

SUMM . . . form. These sugars are also provided to some extent by other added materials in the beverage product such as fruit **juice**, optional flavorants and so forth.

SUMM . . . comprising at least about 50% by weight of fructose. Preferred fructose sources are high fructose corn syrups containing 55% fructose **solids** and liquid fructose (contains 99% fructose **solids**), both of which are available from A. E. Staley Manufacturing, Decatur, Ill.

SUMM . . . L-aspartyl-L-hydroxyethylalkane amide sweeteners disclosed in U.S. Pat. No. 4,423,029 to Rizzi (1983), glycyrrhins, synthetic alkoxy aromatics, etc. Lo Han Guo **juice** which contains a natural sweetener can also be used as a sweetener. When it is used the amount of sugar. . .

SUMM . . . carried out a period of time sufficient to produce an aqueous extract containing from about 0.75% to about 2.5% soluble **solids**, preferably from about 1% to about 2% soluble **solids**. The extract is separated from the tea materials and other solid tea residue, for example, by settling and decanting, filtration, . . .

SUMM . . . carried out a period of time sufficient to produce an aqueous extract containing from about 0.5% to about 2.0% soluble **solids**, preferably from about 1.0 to about 1.5 soluble **solids**. After removing the tea material, the two extracts are pooled. The aqueous solution for the second extraction of the 10. . .

SUMM . . . is not preferred. The amount of gelatin to be added to the extract is determined by the amount of tea **solids** present in

the extract. The ratio of gelatin solution to tea **solids** suitable for clarifying the extract and reducing the astringent flavor is from about 1:2 to about 1:6, preferably from about. . .

SUMM After centrifuging the extract is evaporated at a temperature of from about 50.degree. C. to about 80.degree. C. to a **solids** content of from about 12% to about 60%, preferably from about 20% to about 50% **solids**.

SUMM . . . extract, the remainder of the tea solution (second portion) is used to extract another quantity of tea, thereby increasing the **solids** level.

SUMM . . . not preferred. The amount of gelatin solution to be added to the tank is determined by the amount of tea **solids** present in the extract. The ratio of gelatin to soluble **solids** suitable for clarifying the extract and reducing the astringent flavor is from about 1:2 to about 1:6, preferably from about. . .

SUMM . . . is evaporated, preferably under reduced pressure, at a temperature of from about 50.degree. C. to about 80.degree. C. to a **solids** content of from about 12% to about 60%, preferably from about 20% to about 50% **solids**. Reduced pressure can be used in the evaporation process.

SUMM The resulting aqueous tea extract solution comprises from about 20% to about 60% **solids**, from about 3% to about 17%, preferably from about 5% to about 15% and more preferably from about 7% to. . .

SUMM Optionally the extract can be dried to produce reconstitutable tea extract **solids**. Conventional drying means, such as freeze drying, vacuum belt drying and spray drying can be used to provide a substantially. . . powder which can be reconstituted. A concentrated extract suitable for drying preferably has from about 25% to about 60% soluble **solids**, preferably from about 30% to about 60% and more preferably from about 40% to about 60% soluble **solids**.

SUMM . . . concentrate or beverage syrup is usually formed first. This beverage concentrate typically contains water soluble flavors, flavor oils, or fruit **juice** concentrates, acid, color and/or suitable preservatives if needed. The beverage concentrate usually contains from about 5% to about 70% by. . .

SUMM . . . 0.4% to about 1.5% tea extract. Preferably the extract is concentrated and comprises form about 12% to about 40% tea **solids**.

DETD . . . 12.degree. C., centrifuged at about 12 rpm under a nitrogen atmosphere and evaporated into a two phase evaporator to a **solids** level of about 55.degree. Brix. The resulting green tea concentrate is cooled to about 21.degree. C. and filled into a. . .

DETD

| Ingredient | Amount (% by weight) |
|---|-------------------------|
| high fructose corn syrup 42 | 18.50 |
| (71% solids) | |
| water | 79.28 |
| Gums | 0.045 |
| Food Starch | 0.114 |
| citric acid | 0.42 |
| fruit juice concentrates.sup.(1) and | 1.00 |
| flavor oils | |
| green tea concentrate prepared | 0.56 |
| according to Example I.sup.(2) | |
| ascorbic acid | .05 |
| Erythorbic Acid | .023 |
| vitamin E acetate | .006 |
| colorant.sup.(3) | .004 |
| vitamin A. . . | |

DETD (1) The fruit **juice** concentrates are a mixture of apple, tangerine, lime and orange **juice** concentrates.
 DETD (2) The green tea concentrate contains about 40% **solids**, 2.7% caffeine., 10% erythorbic acid, and 5.23% citric acid.

DETD

Example 2

| Ingredient | Amount (% by weight) |
|---|-------------------------|
| high fructose corn syrup | 17.8 |
| (71% solids) | |
| water | 80.16 |
| Gums | 0.045 |
| citric acid | 0.35 |
| fruit juice concentrates.sup.(1) and | 1.00 |
| flavor oils | |
| green tea concentrate.sup.(2) | 0.56 |
| ascorbic acid | 0.05 |
| Erythorbic Acid | 0.023 |
| vitamin E acetate | 0.006 |
| colorants.sup.(3) | .003 |
| vitamin A palmitate | 0.003 |

DETD (1) The fruit **juice** concentrates are a mixture of apple, tangerine, lime and orange **juice** concentrates.

DETD (2) The green tea concentrate contains about 40% **solids**, 2.5% caffeine., 10.0% 5 erythorbic acid, and 5.23% citric acid.

CLM What is claimed is:

. . . 1. A color stable beverage composition comprising: a) from about 0.4% to about 1.5% green tea extract having a tea **solids** content of from about 12% to about 60% and a Hunter L color value of from about 58 to about. . . e) an effective amount of sweetener; and f) water; wherein said green tea extract is obtained by extracting unfermented tea **solids** or tea material with an aqueous solution containing erythorbic acid, ascorbic acid or mixtures thereof and citric acid and wherein. . . .

8. A color stable beverage composition according to claim 4 wherein said flavorant is fruit **juice** selected from group consisting of apple, pear, lemon, lime, mandarin, tangerine, grapefruit, cranberry, orange, strawberry, grape, kiwi, pineapple, passion fruit,. . . .

. . . 15. A shelf stable beverage composition comprising: a) from about 0.4% to about 1.5% green tea extract having a tea **solids** content of from about 12% to about 40%; b) from about 10 ppm to about 45 ppm colorant; c) a. . . e) an effective amount of sweetener; and f) water; wherein said green tea extract is obtained by extracting unfermented tea **solids** or tea material with an aqueous solution containing erythorbic acid, ascorbic acid or mixtures thereof and citric acid and wherein. . . .

22. A shelf stable beverage composition according to claim 18 wherein said flavorant is fruit **juice** selected from group consisting of apple, pear, lemon, lime, mandarin, tangerine, grapefruit, cranberry, orange, strawberry, grape, kiwi, pineapple, passion fruit,. . . .

L11 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1993:51469 BIOSIS

DOCUMENT NUMBER: PREV199395027771

TITLE: Black chokeberry (Aronia melanocarpa) for manufacture of **food** colorant.

AUTHOR(S): Kaack, K. (1); Kuhn, B. Falk

CORPORATE SOURCE: (1) Dep. Food Sci. Technologi, Laboratoriet

Levnedsmiddelforskning, Dan. Inst. Plant Soil Sci., DK-5792
Aarslev
SOURCE: Tidsskrift for Planteavl, (1992) Vol. 96, No. 2, pp.
183-196.
ISSN: 0040-7135.

DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English; Danish

TI Black chokeberry (*Aronia melanocarpa*) for manufacture of food
colorant.

AB. . . from 0.67 to 0.88 g/fruit is not of practical importance because
harvesting can be carried out by use of a **black currant**
combiner and because the fruits probably is useful mostly for processing
of **juice** as a colorant. The content of soluble **solids**
was 18-22 g/100 g which is a high value compared to other fruits. A.
melanocarpa "Kashamachi" had the highest content followed by 'Aron' and A.
melanocarpa "Estland" with 19-20 g/100 g. The content of soluble
solids was only 18 g/100 g in A. *melanocarpa* "Mandschurica" and
'Viking'. All the cultivars had almost equal average content of
anthocyanin and titratable acids. The average content of
titratable acid was 11 g/100 g which is at the level as for apples and
other berries. In chokeberries the average content of **anthocyanins**
was at the same levels as in elderberries, about 750-950 mg/100 g. the
anthocyanin in chokeberry is more heat stable than
anthocyanins from strawberry and **black currant**
, but less stable compared to **anthocyanins** from elderberry and
grapes. It is not yet possible to explain the differences in
anthocyanin stability from the chemical structure of the
anthocyanins in the actual fruits. Probably increasing
glycosylation causing decreasing hydrolysis rates is the most important
reason for differences in stability of colorants. The degradation of
anthocyanins follow a reaction of first order. By use of the
Arrhenius-equation the activation energy was calculated to 16-20
kcal/mole. When chokeberry is applied as colorant for processing of plum
juice a satisfactory color and no deterioration in flavor is
obtained by use of 10% chokeberry **juice**.

IT Miscellaneous Descriptors

ANTHOCYANIN CONTENT; COLORANT STABILITY; FLAVOR; HARVESTING
TIME; PLUM JUICE PROCESSING; YIELD

L11 ANSWER 10 OF 12 USPATFULL

ACCESSION NUMBER: 88:63853 USPATFULL

TITLE: Cranberry color extraction

INVENTOR(S): Stahl, Howard D., Scarsdale, NY, United States
Bordonaro, Michael E., Fort Lee, NJ, United States
Nini, David, Bronx, NY, United States

PATENT ASSIGNEE(S): General Foods Corporation, White Plains, NY, United
States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|--|------|--------------|
| PATENT INFORMATION: | US 4775477 | | 19881004 |
| APPLICATION INFO.: | US 1987-115472 | | 19871030 (7) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Spear, Frank | | |
| LEGAL REPRESENTATIVE: | Marcoux, Thomas A., Quillinan, Michael J., Donovan, Daniel J. | | |

NUMBER OF CLAIMS: 11

EXEMPLARY CLAIM: 1

LINE COUNT: 263

SUMM . . . treatment of cranberries it will be seen as equally applicable
to other natural color wastes such as grape waste, roselle,
black currant, etc. which are similarly benefitted by

removal of astringent and/or bitter flavor principles to be hereinafter discussed.

SUMM Heretofore, cranberry presscake, a waste product of cranberry juice extraction, has been considered as a source of red color but its bitter and astringent off-flavors restricted its utility to. . . or as a colorant for cranberry beverages such as cranberry cocktail. An approach by Chiriboga, et. al., Ion Exchange Purified **Anthocyanin** Pigments As A Colorant For Cranberry Juice Cocktail, Journal of Food Science, volume 38 (1973) pp. 464-467 has been to separate the color components from the cranberry extract with ion exchange. . . .

SUMM Cranberry presscake is available at multiple sites where juice is produced. However, because it is a waste material, it cannot be shipped for processing because of potential microbiological problems. .

SUMM The present invention relates to a simple aqueous process for producing an aqueous extract containing cranberry color and other **solids** from cranberry presscake which minimizes astringent and bitter off-flavors. The cranberry presscake may preferably contain rice hulls of a minor. . . .

SUMM . . . of the extract are afforded. In this manner, it is possible to obtain an extract low in high molecular weight **solids** which aid in redispersion of the product in cold water while minimizing the amount of carrier, for example maltodextrin, magnesium. . . .

SUMM . . . few steps. With proper comminution of the cranberry presscake, by grinding "as is" without substantial added water, the cranberry presscake **solids** together with the hulls and/or shell fragments which may be incorporated are reduced in size to aid in the aqueous extraction of the cranberry **solids**, while the rice hulls or equivalent if present are left relatively intact to aid in subsequent further separation and filtration. . . .

SUMM . . . in the process for extraction and thereby minimizes cost, making it possible to place the process directly in an existing juice extraction facility. By the correct selection of the microfiltration membranes for subsequent clarification followed by reverse osmosis it is now. . . composition of the extract to optimize its physical Property, resulting in a product which is considered natural and free of Food and Drug labeling requirements.

SUMM Microfiltration is next employed to remove suspended **solids** and colloidal high molecular weight components e.g., protopectin components from the liquor and thereafter the microfiltration product is sent directly. . . .

SUMM . . . salt rejection efficiency in excess of 90% and typically in excess of 99.0%. The reverse osmosis retentate is typically 10% **solids** and can be high as 25%. The concentrated Product from reverse osmosis, may be further concentrated and dried depending upon. . . .

SUMM . . . a sparkling clear, red-colored solution. However, the extract will contain substantially all of the beneficial organic constituents found in cranberry juice, i.e., natural acids, sugars, amino acids, low molecular weight peptides, salt and **anthocyanins**.

DETD . . . 10 minutes prior to separation. After combining the subbatches, the extract was filtered in a basket centrifuge, the slurry of **solids** being added until the cake is built-up in the filter bag and the filtrate flow rate slowed significantly. A total. . . .

DETD . . . such as sugars, acids, proteins and amino acids. The retentate may be discarded, used as a source of pectin in food products or as a source of dietary fiber. The permeate contained 0.48% **solids**. The microfiltration medium is of a tubular or thin-channel configuration. There is a viscosity decrease of the liquid passing the. . . .

DETD . . . found in cranberry extracts of the prior art, as explained heretofore. The retentate of the reverse osmosis steps contained 14.9% **solids**. The retentate had a total **anthocyanin** content

L4 668275 S L2 OR L3
 L5 394 S L4 AND L1
 L6 2449219 S FOOD OR JUICE
 L7 284 S L5 AND L6
 L8 22247 S ANTHOCYANIN
 L9 35513 S ANTHOCYAN?
 L10 12 S L9 AND L7
 L11 12 DUP REM L10 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 15:13:01 ON 05 APR 2003

L12 0 S BLACKCURRANT SOLIDS
 L13 0 S BLACKCURRANT SOLID
 L14 0 S CURRANT SOLIDS

=> file reg

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|--|------------------|---------------|
| FULL ESTIMATED COST | 1.32 | 79.51 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
| CA SUBSCRIBER PRICE | 0.00 | -0.65 |

FILE 'REGISTRY' ENTERED AT 15:26:01 ON 05 APR 2003
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 APR 2003 HIGHEST RN 501838-31-9
 DICTIONARY FILE UPDATES: 4 APR 2003 HIGHEST RN 501838-31-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> file medicine

| FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED | SINCE FILE ENTRY | TOTAL SESSION |
|--|------------------|---------------|
| COST IN U.S. DOLLARS | 0.40 | 79.91 |
| FULL ESTIMATED COST | 0.40 | 79.91 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
| CA SUBSCRIBER PRICE | 0.00 | -0.65 |

FILE 'ADISCTI' ENTERED AT 15:26:06 ON 05 APR 2003
 COPYRIGHT (C) 2003 Adis International Ltd. (ADIS)

FILE 'ADISINSIGHT' ENTERED AT 15:26:06 ON 05 APR 2003
 COPYRIGHT (C) 2003 Adis International Ltd. (ADIS)

FILE 'ADISNEWS' ENTERED AT 15:26:06 ON 05 APR 2003
 COPYRIGHT (C) 2003 Adis International Ltd. (ADIS)

FILE 'BIOSIS' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'BIOTECHNO' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'CANCERLIT' ENTERED AT 15:26:06 ON 05 APR 2003

FILE 'CAPLUS' ENTERED AT 15:26:06 ON 05 APR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CEN' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 American Chemical Society (ACS)

FILE 'DDFB' ACCESS NOT AUTHORIZED

FILE 'DDFU' ACCESS NOT AUTHORIZED

FILE 'DGENE' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 THOMSON DERWENT

FILE 'DRUGB' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 THOMSON DERWENT

FILE 'DRUGLAUNCH' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 IMSWORLD Publications Ltd

FILE 'DRUGMONOG2' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 IMSWORLD Publications Ltd

FILE 'DRUGNL' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 IMSWORLD Publications Ltd

FILE 'DRUGU' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 THOMSON DERWENT

FILE 'EMBAL' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE 'EMBASE' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE 'ESBIOBASE' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'IFIPAT' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 IFI CLAIMS(R) Patent Services (IFI)

FILE 'IPA' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 American Society of Hospital Pharmacists (ASHP)

FILE 'JICST-EPLUS' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Japan Science and Technology Corporation (JST)

FILE 'KOSMET' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 International Federation of the Societies of Cosmetics Chemists

FILE 'LIFESCI' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Cambridge Scientific Abstracts (CSA)

FILE 'MEDICONF' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (c) 2003 FAIRBASE Datenbank GmbH, Hannover, Germany

FILE 'MEDLINE' ENTERED AT 15:26:06 ON 05 APR 2003

FILE 'NAPRALERT' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Board of Trustees of the University of Illinois,
University of Illinois at Chicago.

FILE 'NLDB' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Gale Group. All rights reserved.

FILE 'NUTRACEUT' ENTERED AT 15:26:06 ON 05 APR 2003
Copyright 2003 (c) MARKETLETTER Publications Ltd. All rights reserved.

FILE 'PASCAL' ENTERED AT 15:26:06 ON 05 APR 2003
Any reproduction or dissemination in part or in full,
by means of any process and on any support whatsoever
is prohibited without the prior written agreement of INIST-CNRS.
COPYRIGHT (C) 2003 INIST-CNRS. All rights reserved.

FILE 'PCTGEN' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 WIPO

FILE 'PHARMAML' ENTERED AT 15:26:06 ON 05 APR 2003
Copyright 2003 (c) MARKETLETTER Publications Ltd. All rights reserved.

FILE 'PHIC' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 PJB Publications Ltd. (PJB)

FILE 'PHIN' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 PJB Publications Ltd. (PJB)

FILE 'SCISEARCH' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 Institute for Scientific Information (ISI) (R)

FILE 'TOXCENTER' ENTERED AT 15:26:06 ON 05 APR 2003
COPYRIGHT (C) 2003 ACS

FILE 'USPATFULL' ENTERED AT 15:26:06 ON 05 APR 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 15:26:06 ON 05 APR 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s blackcurrant solids
L15 0 BLACKCURRANT SOLIDS

=> s currant solids
L16 0 CURRANT SOLIDS

=> currant (s) brix
CURRANT IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s currant (s) brix
L17 5 CURRANT (S) BRIX

=> dup rem
ENTER L# LIST OR (END):l17
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, DGENE, DRUGLAUNCH,
DRUGMONOG2, KOSMET, MEDICONF, NUTRACEUT, PCTGEN, PHARMAML'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L17

L18 5 DUP REM L17 (0 DUPLICATES REMOVED)

=> d l18 1-5 ibib, kwic

L18 ANSWER 1 OF 5 USPATFULL

ACCESSION NUMBER: 2003:10363 USPATFULL

TITLE: Food products

INVENTOR(S): Hynes, Michael P., Plymouth, MA, UNITED STATES
Kaufman, Kathryn, Jamaica Plain, MA, UNITED STATES
Hembling, Mark V., Sandwich, MA, UNITED STATES

| | NUMBER | KIND | DATE |
|-----------------------|---|------|---------------|
| PATENT INFORMATION: | US 2003008057 | A1 | 20030109 |
| APPLICATION INFO.: | US 2002-138592 | A1 | 20020430 (10) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 2001-845417, filed on 30 Apr 2001, PENDING | | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | JEFFREY D. HSI, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804 | | |
| NUMBER OF CLAIMS: | 28 | | |
| EXEMPLARY CLAIM: | 1 | | |
| LINE COUNT: | 1000 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . making a composition comprising selecting a combination of sucrose, fructose, hydrocolloid (e.g., pectin, tara gum) and water, such that the **brix** value of the composition is about 12 or less (e.g., about 8-10). In alternate embodiments, the processes are those made. . . selecting one or more juice concentrates, those wherein the juice concentrates are cranberry, apple, raspberry, grape, strawberry, mango, tangerine, black **currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, black **currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry), or those wherein the juice concentrates are apple, pear, raspberry, . . .

L18 ANSWER 2 OF 5 USPATFULL

ACCESSION NUMBER: 2002:336993 USPATFULL

TITLE: Food products

INVENTOR(S): Hynes, Michael P., Plymouth, MA, UNITED STATES
Kaufman, Kathryn, Jamaica Plain, MA, UNITED STATES
Hembling, Mark V., Sandwich, MA, UNITED STATES

| | NUMBER | KIND | DATE |
|-----------------------|---|------|--------------|
| PATENT INFORMATION: | US 2002192350 | A1 | 20021219 |
| APPLICATION INFO.: | US 2001-845417 | A1 | 20010430 (9) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | JEFFREY D. HSI, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804 | | |
| NUMBER OF CLAIMS: | 10 | | |
| EXEMPLARY CLAIM: | 1 | | |
| LINE COUNT: | 743 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . embodiment is process for making a composition comprising selecting a combination of sucrose, fructose, pectin and water, such that the **brix** value of the composition is about 12 or less. In alternate embodiments, the processes are those made by further selecting one or more juice concentrates, those wherein the juice concentrates are

cranberry, apple, raspberry, grape, strawberry, mango, tangerine, black **currant**, blueberry, peach, pineapple, pear, grapefruit, or a combination thereof, those wherein the juice concentrates are cranberry and one or more of: apple, raspberry, grape, strawberry, mango, tangerine, black **currant**, or blueberry, (e.g., cranberry and raspberry, cranberry and apple, cranberry).

L18 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:504415 CAPLUS

DOCUMENT NUMBER: 135:76166

TITLE: Vitamin C in the process of black currant wine production

AUTHOR(S): Laskowska, Joanna; Czyzycki, Aleksander; Wlodarczyk, Magdalena

CORPORATE SOURCE: Inst. Technol. Ferment. i Mikrobiologii, Politechnika Lodzka, Lodz, Pol.

SOURCE: Przemysl Fermentacyjny i Owocowo-Warzywny (2001), 45(4), 12-14

CODEN: PFOWDZ; ISSN: 0137-2645

PUBLISHER: Wydawnictwo SIGMA-NOT

DOCUMENT TYPE: Journal

LANGUAGE: Polish

AB Changes in the contents of vitamin C in different stages of black currant wine prodn. were examd. The must was made from black **currant** juice conc. with total ext. content of 67.5.degree.Brix. Mineral nutrient additive with diammonium phosphate and ammonium sulfate and the Fermaid K prepn. were added. The musts were fermented by yeasts from dry Saccharomyces cerevisiae bayanus prepn. with and without the addn. of 100 mg SO₂/L. The contents of vitamin C were detd. by spectrophotometry. The black currant juice conc. contained 842.1 mg total vitamin C and 585.7 mg L-ascorbic acid/100 g. The total vitamin C and L-ascorbic acid contents in juices dild. for fermn. were 512.4 and 466.2 mg/L, resp. During the fermn. process the loss of total vitamin C was 10.7% and of L-ascorbic acid 8.7%. After 64 days of wine maturation the losses of vitamin C were 6% with SO₂ and 10% without SO₂. During the process of wine filtration the resp. losses were 0.5% and 0.7%. During the hot bottling of wine the resp. losses were 0.3 and 0.5%. Since the obtained wines had too high acidity (up to 12.9 g/L), they required a deacidification correction by pptn. of citric acid (65 for 10 min or 75.degree.C for 5 min) before bottling. The loss of total vitamin C due to deacidification was (depending on temp. and time) 23-26% and of L-ascorbic acid 24-31%. The overall losses of vitamin C in wines with and without SO₂ were 38.1 and 44.3%, resp. Other deviations from norms for fruit wines were not found.

L18 ANSWER 4 OF 5 SCISEARCH COPYRIGHT 2003 ISI (R)

ACCESSION NUMBER: 93:527835 SCISEARCH

THE GENUINE ARTICLE: LT264

TITLE: CORRELATION AMONG INDEXES OF RIPENESS IN DIFFERENT FRUITS

AUTHOR: RODRIGUEZ M A R (Reprint); ODERIZ M L V; HERNANDEZ J L; LOZANO J S

CORPORATE SOURCE: FAC FARM SANTIAGO DE COMPOSTELA, DEPT QUIM ANALIT NUTR & BROMATOL, E-15706 SANTIAGO, SPAIN (Reprint)

COUNTRY OF AUTHOR: SPAIN

SOURCE: INDUSTRIE ALIMENTARI, (JUN 1993) Vol. 32, No. 316, pp. 606-608.

ISSN: 0019-901X.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: AGRI

LANGUAGE: Italian

REFERENCE COUNT: No References Keyed

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Correlations among the indices of fruit ripeness (o underbar)

Brix, (o underbar)**Brix**/total acidity, soluble

sugars/total acidity and colour, were studied for different fruits (whortlberry, raspberry, red and black **currant**, elderberry, sour cherry, babaco, feijoa, kiwano, persimmon and passion fruit).

The correlation between (o underbar)Brix/total acidity and soluble sugars/total acidity. . .

L18 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1964:93867 CAPLUS

DOCUMENT NUMBER: 60:93867

ORIGINAL REFERENCE NO.: 60:16423a-b

TITLE: Brix values of unconcentrated natural fruit juices

AUTHOR(S): Anon.

SOURCE: Federal Register (1964), 29, 4150

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The following have been detd. to be the av. **Brix** values of unconcd. natural fruit juices for the purpose of the Tariff Schedules of the U.S.: apple 13.3, apricot 14.3, black **currant** 15.0, blackberry 10.0, black raspberry 11.1, blueberry 14.1, boysenberry 10.0, cherry 14.3, cranberry 10.5, date 18.5, dewberry 10.0, elderberry 11.0, fig 18.2, grape (*Vitis vinifera*) 18.0, grape (slipskin varieties) 16.0, grapefruit 10.2, guava 7.7, lemon 8.9, lime 10.0, loganberry 10.5, orange 11.8, papaya 10.2, pear 15.4, pineapple 14.3, plum 14.3, prune 18.5, raisin 18.5, raspberry (red) 10.5, red **currant** 10.5, strawberry 8.0, tangerine 11.5, and youngberry 10.0.

of 520 mgs. per liter. The retentate can be dried or concentrated further and used as a coloring agent per se or a source of food solids.

L11 ANSWER 11 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1989:447127 BIOSIS
DOCUMENT NUMBER: BA88:95399
TITLE: MECHANIZED **CURRENT** HARVEST AND PROBLEMS OF FRUIT QUALITY PART II. CHANGES IN THE QUALITY OF **BLACK CURRENT** FRUITS HARVESTED MECHANICALLY AND BY HAND DURING SHORT TERM STORAGE.
AUTHOR(S): LENARTOWICZ W; ZBROSZCZYK J
CORPORATE SOURCE: INSTYTUT SADOWNICTWA I KWIACIARSTWA, SKIERNIEWICE, POLAND.
SOURCE: PR INST SADOW KWIACIARSTWA SKIERNIEWICACH SER A - PR DOSW ZAKRESU SADOW, (1987 (1988)) 27 (0), 143-154.
CODEN: PSKSDQ. ISSN: 0208-5933.

FILE SEGMENT: BA; OLD

LANGUAGE: Polish

TI MECHANIZED **CURRENT** HARVEST AND PROBLEMS OF FRUIT QUALITY PART II. CHANGES IN THE QUALITY OF **BLACK CURRENT** FRUITS HARVESTED MECHANICALLY AND BY HAND DURING SHORT TERM STORAGE.

AB Changes in the **black currant** fruit, harvested mechanically and by hand, were investigated during short term storage in different temperatures. It was found that after. . . K (6.degree. C) than at 289-292.5 K (16-19.5.degree. C). Changes in the content of organic substances as dry matter, soluble **solids**, organic acids and **anthocyanins** were similar in fruits harvested by the two methods. Only ascorbic acid content decreased faster in mechanically harvested fruits. Leakage of juice from the defrosted fruits was similar. Changes in the organic substances content were much faster and more pronounced at room. . . temperature. Storage at the temperature of 279 K (6.degree. C) decreased the tempo of these changes. It was shown that **black currant** fruits harvested by either methods preserved their good quality at the temperature 279 K (6.degree. C), for 4 days, and.

IT Miscellaneous Descriptors

ANTHOCYANINS ORGANIC ACIDS FUNGAL ROT COLD STORAGE

L11 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:407540 CAPLUS
DOCUMENT NUMBER: 83:7540
TITLE: Pigments from the processing by-products of black rowanberries and black currants
AUTHOR(S): Nakhmedov, F. G.; Frumkin, M. L.; Svistunova, V. A.; Myachin, V. M.
CORPORATE SOURCE: Vses. Nauchno-Issled. Inst. Konservn. Ovoshchesush. Prom., USSR
SOURCE: Konservnaya i Ovoshchesushil'naya Promyshlennost (1975), (4), 15-18
CODEN: KOPRAU; ISSN: 0023-3587

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Wastes from **black currant** and black rowanberry processing contained 5-10% **solids** and 800-2000 mg % **anthocyanins**. The material was contaminated with microorganisms and spoiled readily. The rowanberry waste showed cyanidin, cyanidin 3-glucoside, cyanidin 3,5-diglucoside, and a trace of delphinidin during paper chromatog., while the **currant** material showed cyanidin, delphinidin, cyanidin 3-glucoside, and delphinidin 3-rutinoside. The waste materials were potentially good sources of food coloring material.

ST **currant black anthocyanin; rowanberry anthocyanin**

IT **Currant**

(black, pigments of, for food coloring)

IT **Anthocyanins**
 RL: BIOL (Biological study)
 (of currants and rowanberries, for food coloring)

IT Sorbus aucuparia
 (pigments of fruit of, for food coloring)

IT 15674-58-5
 RL: BIOL (Biological study)
 (of black currants, food coloring by)

IT 528-53-0 528-58-5 7084-24-4
 RL: BIOL (Biological study)
 (of currants and rowanberries, for food coloring)

IT 2611-67-8
 RL: BIOL (Biological study)
 (of rowanberries, food coloring by)

| | | |
|--|------------|---------|
| => FIL STNGUIDE | | |
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL |
| | ENTRY | SESSION |
| FULL ESTIMATED COST | 77.98 | 78.19 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL |
| | ENTRY | SESSION |
| CA SUBSCRIBER PRICE | -0.65 | -0.65 |

FILE 'STNGUIDE' ENTERED AT 15:13:01 ON 05 APR 2003
 USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
 AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
 LAST RELOADED: Mar 31, 2003 (20030331/UP).

=> s blackcurrant solids
 0 BLACKCURRANT
 0 SOLIDS

L12 0 BLACKCURRANT SOLIDS
 (BLACKCURRANT(W) SOLIDS)

=> s blackcurrant solid
 0 BLACKCURRANT
 6 SOLID

L13 0 BLACKCURRANT SOLID
 (BLACKCURRANT(W) SOLID)

=> s currant solids
 0 CURRANT
 0 SOLIDS

L14 0 CURRANT SOLIDS
 (CURRANT(W) SOLIDS)

=> d his

(FILE 'HOME' ENTERED AT 15:08:44 ON 05 APR 2003)

FILE 'ADISCTI, ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CANCERLIT,
 CAPLUS, CEN, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, EMBAL,
 EMBASE, ESBIODASE, IFIPAT, IPA, JICST-EPLUS, KOSMET, LIFESCI, MEDICONF,
 MEDLINE, NAPRALERT, NLDB, NUTRACEUT, ...' ENTERED AT 15:09:03 ON 05 APR
 2003

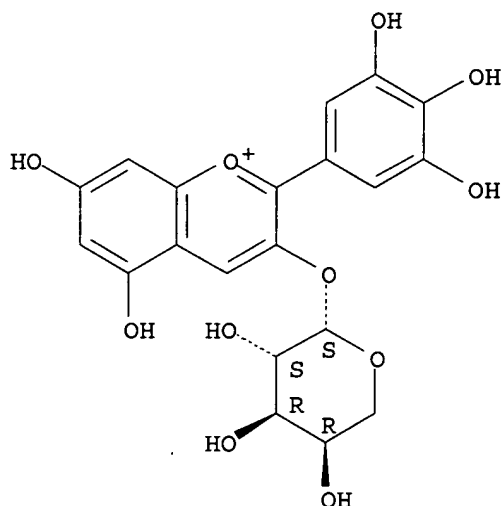
L1 8787 S BLACKCURRANT OR BLACK CURRANT OR CURRANT
 L2 668275 S % SOLIDS
 L3 13169 S PERCENT SOLIDS

=> s delphinidin 3 o
 65 DELPHINIDIN
 11838682 3
 2030480 O
 L1 11 DELPHINIDIN 3 O
 (DELPHINIDIN(W)3(W)O)

=> d l1 1-11

L1 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2003 ACS
 RN 260256-21-1 REGISTRY
 CN 1-Benzopyrylium, 3-(.beta.-arabinopyranosyloxy)-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)- (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Delphinidin 3-O-.beta.-D-arabinopyranoside
 FS STEREOSEARCH
 MF C20 H19 O11
 SR CA
 LC STN Files: CA, CAPLUS

Relative stereochemistry.



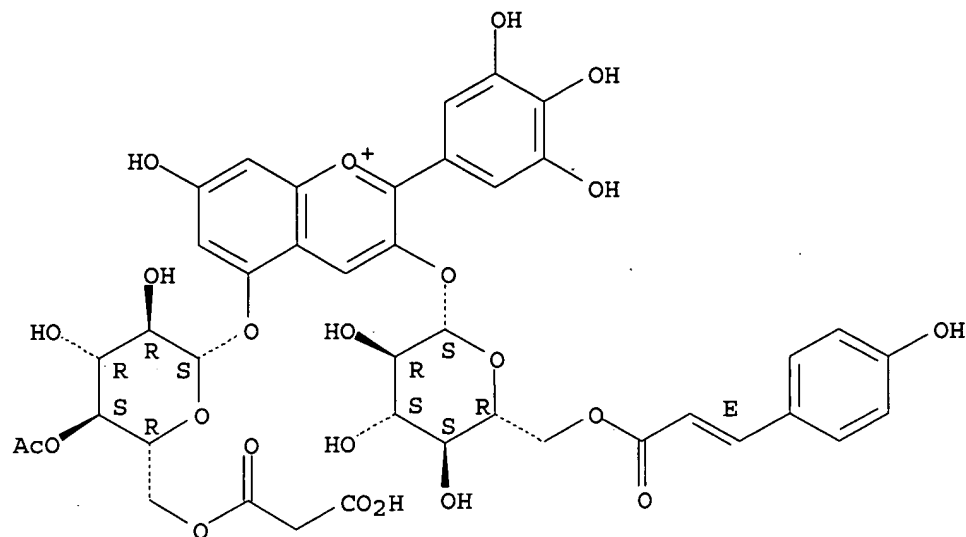
1 REFERENCES IN FILE CA (1962 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2003 ACS
 RN 250344-52-6 REGISTRY
 CN 1-Benzopyrylium, 5-[[4-O-acetyl-6-O-(carboxyacetyl)-.beta.-D-glucopyranosyl]oxy]-7-hydroxy-3-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-.beta.-D-glucopyranosyl]oxy]-2-(3,4,5-trihydroxyphenyl)-, chloride (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Acetylmalonylawobanin
 CN Delphinidin 3-O-[6-O-(p-coumaroyl)-.beta.-D-glucopyranoside]-5-O-[4-O-acetyl-6-O-malonyl-.beta.-D-glucopyranoside]
 FS STEREOSEARCH
 MF C41 H41 O23 . Cl
 SR CA
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

● Cl⁻

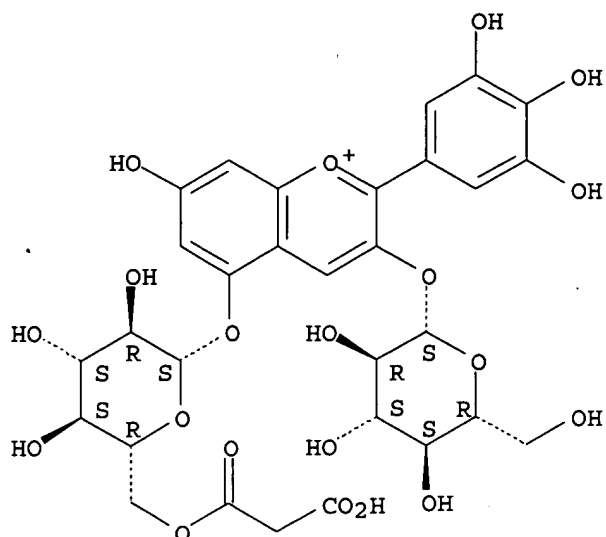
1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2003 ACS
RN 221350-33-0 REGISTRY
CN 1-Benzopyrylium, 5-[[6-O-(carboxyacetyl)-.beta.-D-glucopyranosyl]oxy]-3-
(.beta.-D-glucopyranosyloxy)-7-hydroxy-2-(3,4,5-trihydroxyphenyl)- (9CI)
(CA INDEX NAME)

OTHER NAMES:

CN Delphinidin 3-O-(.beta.-D-glucopyranoside)-5-O-(6-O-malonyl-.beta.-D-glucopyranoside)
FS STEREOSEARCH
MF C30 H33 O20
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



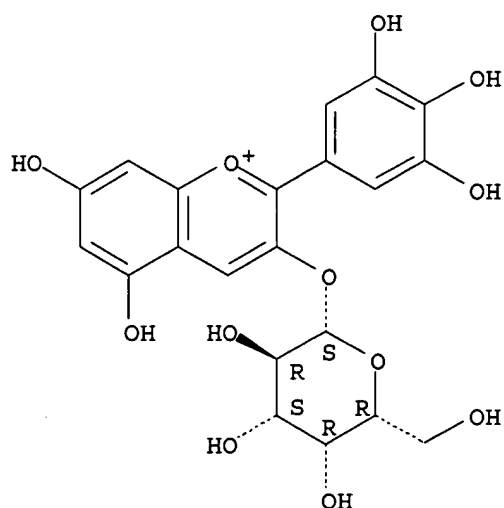
3 REFERENCES IN FILE CA (1962 TO DATE)
3 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2003 ACS
RN 197250-28-5 REGISTRY
CN 1-Benzopyrylium, 3-(.beta.-D-galactopyranosyloxy)-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN **Delphinidin 3-O-.beta.-D-galactopyranoside**
FS STEREOSEARCH
MF C21 H21 O12
CI COM
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



7 REFERENCES IN FILE CA (1962 TO DATE)
7 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2003 ACS

RN 194302-05-1 REGISTRY

CN 1-Benzopyrylium, 3-[[6-O-(6-deoxy-.alpha.-L-mannopyranosyl)-.beta.-D-glucopyranosyl]oxy]-2-[3,4-dihydroxy-5-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-.beta.-D-glucopyranosyl]oxy]phenyl]-5-hydroxy-7-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-.beta.-D-glucopyranosyl]oxy]-(9CI) (CA INDEX NAME)

OTHER NAMES:

CN Delphinidin 3-O-rutinoside-7,3'-di-O-(6-O-p-coumaroyl-.beta.-D-glucopyranoside)

FS STEREOSEARCH

MF C57 H63 O30

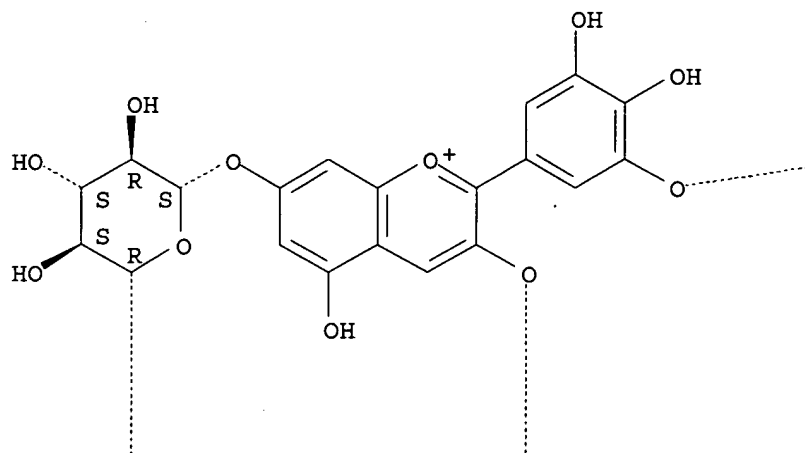
SR CA

LC STN Files: CA, CAPLUS

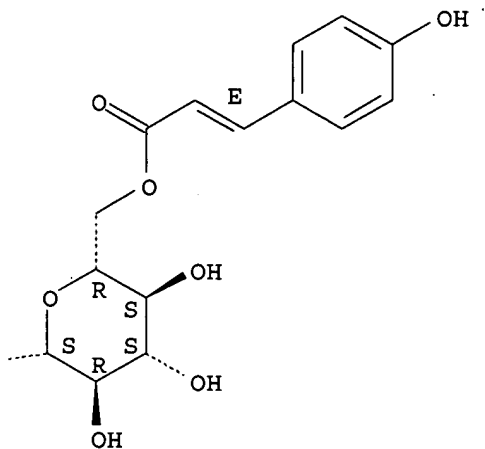
Absolute stereochemistry.

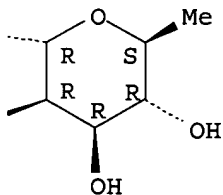
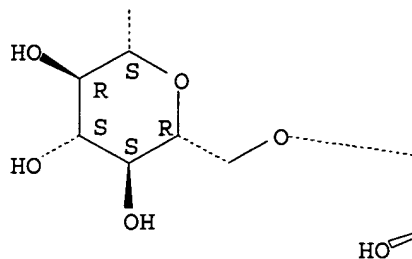
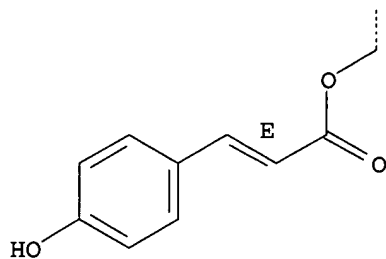
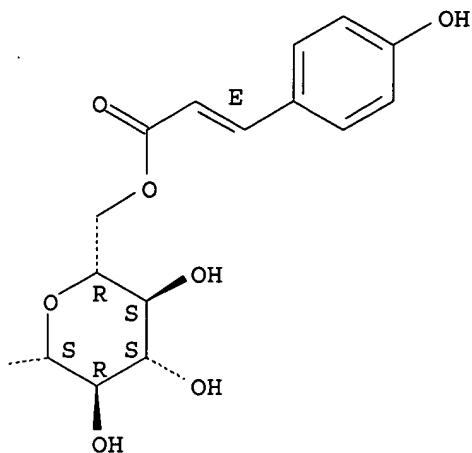
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B





1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2003 ACS

RN 194302-04-0 REGISTRY

CN 1-Benzopyrylium, 3-[[6-O-(6-deoxy-.alpha.-L-mannopyranosyl)-.beta.-D-glucopyranosyl]oxy]-2-[3,4-dihydroxy-5-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-.beta.-D-glucopyranosyl]oxy]phenyl]-7-(.beta.-D-glucopyranosyloxy)-5-hydroxy- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Delphinidin-3-O-rutinoside 7-O-.beta.-D-glucopyranoside,
3'-O-(6-O-p-coumaroyl-.beta.-D-glucopyranoside

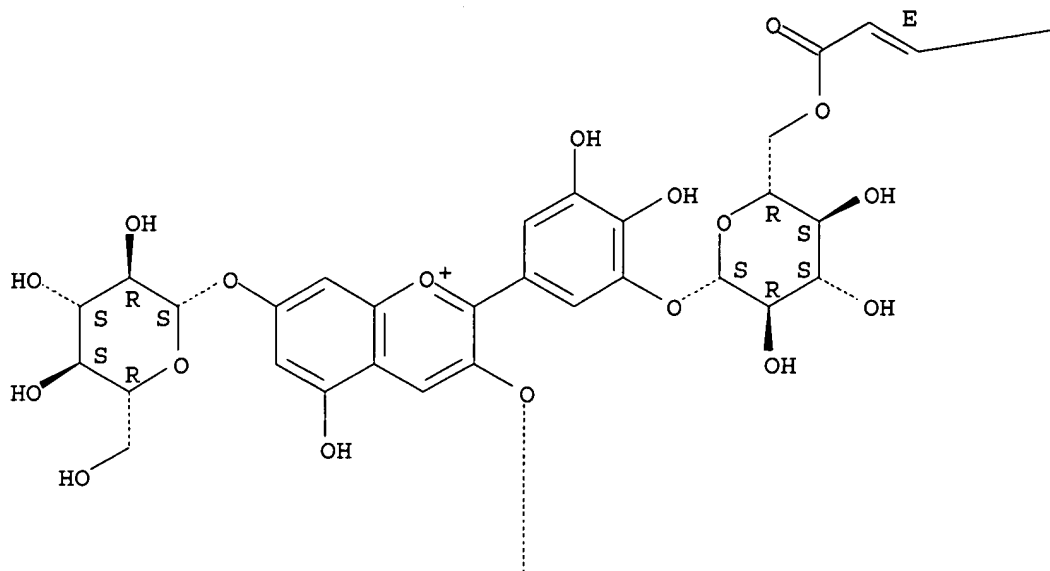
FS STEREOSEARCH

MF C48 H57 O28

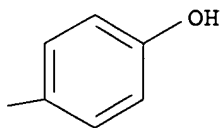
SR CA
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.
 Double bond geometry as shown.

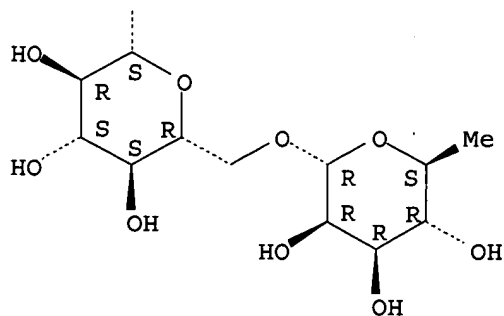
PAGE 1-A



PAGE 1-B



PAGE 2-A



1 REFERENCES IN FILE CA (1962 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

CN 1-Benzopyrylium, 5,7-dihydroxy-3-[[6-O-[3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-.beta.-D-glucopyranosyl]oxy]-2-(3,4,5-trihydroxyphenyl)-, chloride (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Delphinidin 3-(6-O-p-coumarylglucoside)

CN **Delphinidin-3-O-(6-O-p-coumaryl)-glucoside**

FS STEREOSEARCH

DR 164584-50-3, 140674-88-0, 68206-47-3, 312297-77-1

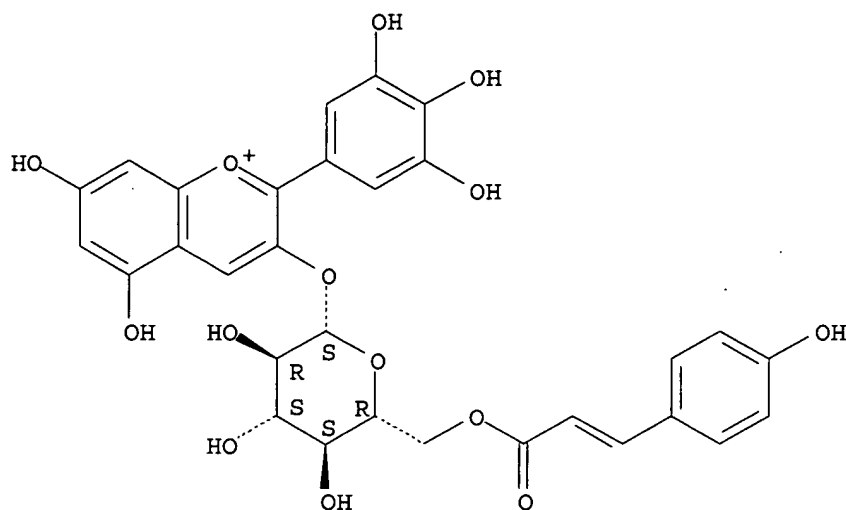
MF C30 H27 O14 . Cl

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry unknown.

PAGE 1-A



PAGE 2-A

● Cl⁻

26 REFERENCES IN FILE CA (1962 TO DATE)

26 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2003 ACS

RN 28500-01-8 REGISTRY

CN 1-Benzopyrylium, 3-(arabinosyloxy)-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-, chloride (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 3-(Arabinosyloxy)-3',4',5,5',7-pentahydroxyflavylium chloride (7CI)

CN Flavylium, 3-(arabinosyloxy)-3',4',5,5',7-pentahydroxy-, chloride (8CI)

OTHER NAMES:

CN Delphinidin 3-arabinoside

CN **Delphinidin 3-O-arabinoside**

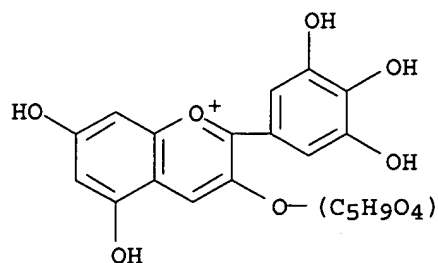
CN Delphinidin arabinoside

DR 88581-99-1, 223678-55-5

MF C20 H19 O11 . Cl

CI IDS

LC STN Files: BIOSIS, CA, CAOLD, CAPLUS, TOXCENTER, USPATFULL

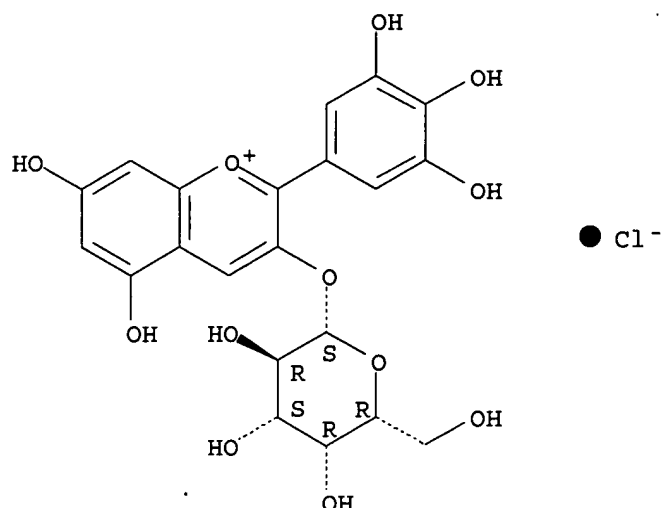


● Cl⁻

36 REFERENCES IN FILE CA (1962 TO DATE)
 36 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2003 ACS
 RN 28500-00-7 REGISTRY
 CN 1-Benzopyrylium, 3-(.beta.-D-galactopyranosyloxy)-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-, chloride (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Delphinidin, 3-galactoside (6CI)
 CN Flavylium, 3-(D-galactosyloxy)-3',4',5,5',7-pentahydroxy-, chloride (8CI)
 OTHER NAMES:
 CN 3-(.beta.-D-Galactopyranosyloxy)-3',4',5,5',7-pentahydroxyflavylium chloride
 CN Delphinidin 3-D-galactoside
 CN Delphinidin 3-monogalactoside
 CN **Delphinidin 3-O-galactoside**
 CN Delphinidin galactoside
 CN Empetrin
 FS STEREOSEARCH
 DR 61247-72-1, 68852-84-6, 26770-35-4, 30304-19-9, 223678-49-7
 MF C21 H21 O12 . Cl
 LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CHEMCATS, IPA, NAPRALERT, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)
 CRN (197250-28-5)

Absolute stereochemistry.



46 REFERENCES IN FILE CA (1962 TO DATE)
 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 47 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2003 ACS

RN 15674-58-5 REGISTRY

CN 1-Benzopyrylium, 3-[[6-O-(6-deoxy-.alpha.-L-mannopyranosyl)-.beta.-D-glucopyranosyl]oxy]-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-, chloride (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Flavylium, 3-[[6-O-(6-deoxy-.alpha.-L-mannopyranosyl)-.beta.-D-glucopyranosyl]oxy]-3',4',5,5',7-pentahydroxy-, chloride (8CI)

CN Tulipanin (6CI, 7CI)

OTHER NAMES:

CN 3',4',5,5',7-Pentahydroxy-3-[(6-O-.alpha.-L-rhamnosyl)-.beta.-D-glucosyl]oxy]flavylium chloride

CN 3-O-Rutinosyldelphinidin

CN **Delphinidin 3-O-rutinoside**

CN Delphinidin 3-rutinoside

FS STEREOSEARCH

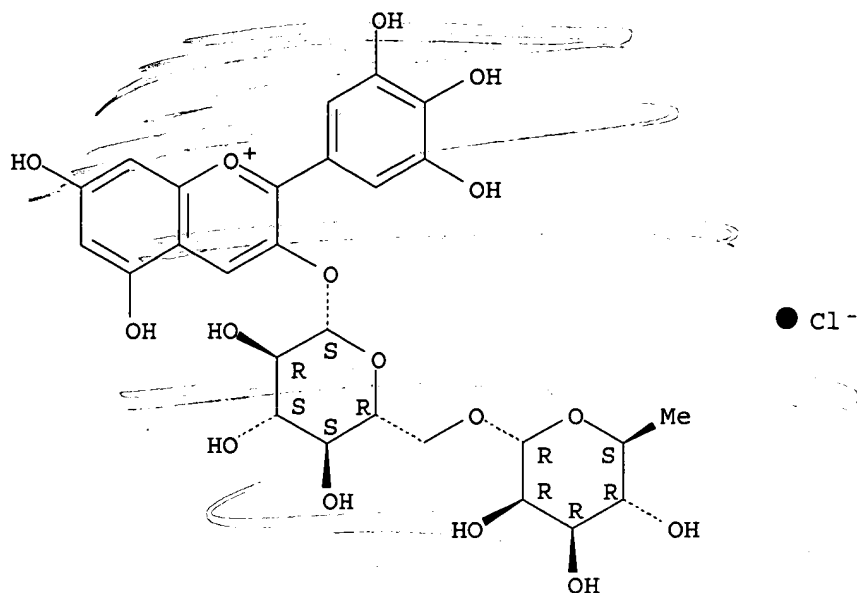
MF C27 H31 O16 . Cl

LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, MEDLINE, MSDS-OHS, NAPRALERT, TOXCENTER

(*File contains numerically searchable property data)

CRN (58285-26-0)

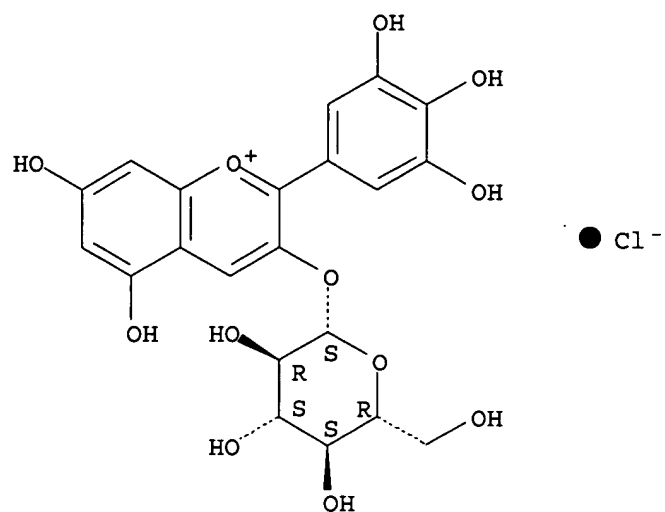
Absolute stereochemistry.



92 REFERENCES IN FILE CA (1962 TO DATE)
 92 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2003 ACS
 RN 6906-38-3 REGISTRY
 CN 1-Benzopyrylium, 3-(.beta.-D-glucopyranosyloxy)-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-, chloride (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Flavylum, 3-(.beta.-D-glucopyranosyloxy)-3',4',5,5',7-pentahydroxy-, chloride (8CI)
 CN Myrtillin (6CI)
 OTHER NAMES:
 CN 3,3',4',5,5',7'-Hexahydroxyflavylum chloride 3-glucoside
 CN Delphinidin 3-.beta.-D-monoglucoside
 CN Delphinidin 3-glucoside
 CN Delphinidin 3-monoglucoside
 CN **Delphinidin 3-O-.beta.-D-glucopyranoside**
 CN **Delphinidin 3-O-glucoside**
 CN Delphinidol 3-glucoside
 CN Mirtillin
 FS STEREOSEARCH
 DR 1400-45-9, 1400-47-1, 27554-24-1, 30373-84-3, 30965-59-4
 MF C21 H21 O12 . Cl
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, EMBASE, IPA, NAPRALERT, RTECS*, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)
 CRN (50986-17-9)

Absolute stereochemistry.



466 REFERENCES IN FILE CA (1962 TO DATE)
 10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 468 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 14 REFERENCES IN FILE CAOLD (PRIOR TO 1967)